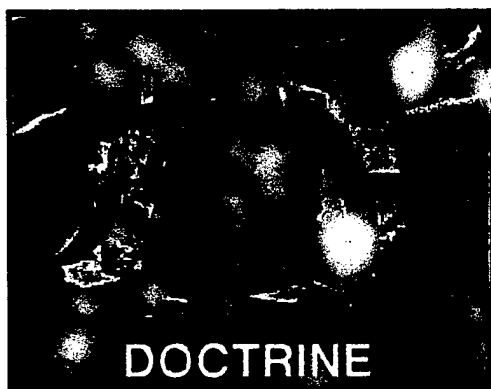


TRAINING AND DOCTRINE COMMAND

3D QTR - FY96 UPDATE



DOCTRINE



TRAINING



MATERIEL

SOLDIERS



LEADER DEV



ORGANIZATIONS

19970312 028

DTIC QUALITY INSPECTED &

TRADOC... WHERE TOMORROW'S VICTORIES BEGIN

GENERAL WILLIAM W. HARTZOG
COMMANDER TRADOC

FORNATION STATEMENT
Approved for public release
Distribution Unlimited

REPORT DOCUMENTATION PAGE

Form Approved

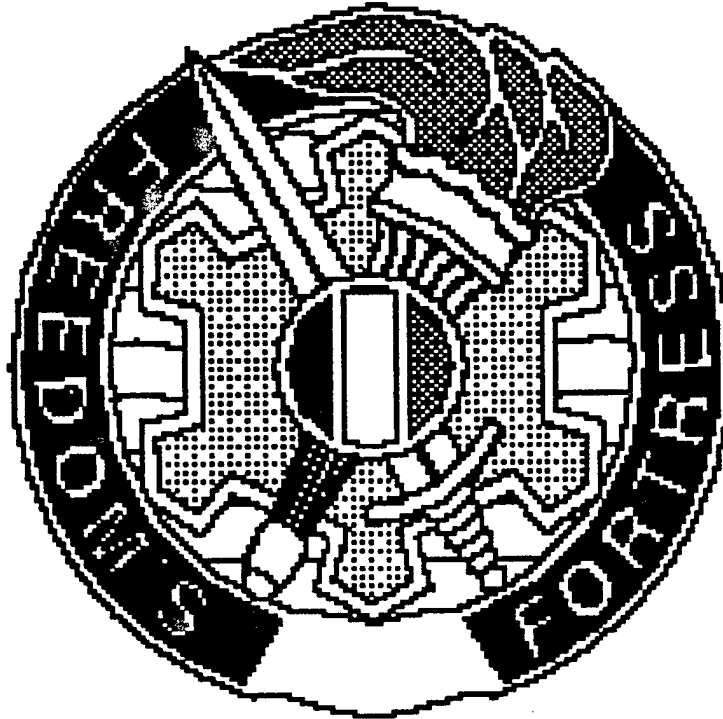
OMB No. 0704-0188

Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188), Washington, DC 20503.

1. AGENCY USE ONLY (Leave blank)		2. REPORT DATE 1996	3. REPORT TYPE AND DATES COVERED Quarterly. 3rd Quarter FY 96	
4. TITLE AND SUBTITLE Training & Doctrine Command 3rd Quarter FY96 Update			5. FUNDING NUMBERS	
6. AUTHOR(S)				
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) HQ, U.S. Army Training & Doctrine Command ATTN: ATCS-I Fort Monroe, VA 23651-5000			8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)			10. SPONSORING/MONITORING AGENCY REPORT NUMBER	
11. SUPPLEMENTARY NOTES				
12a. DISTRIBUTION/AVAILABILITY STATEMENT Approved for public release; distribution is unlimited.			12b. DISTRIBUTION CODE	
13. ABSTRACT (Maximum 200 words)				
14. SUBJECT TERMS			15. NUMBER OF PAGES	
			16. PRICE CODE	
17. SECURITY CLASSIFICATION OF REPORT UNCLASSIFIED	18. SECURITY CLASSIFICATION OF THIS PAGE UNCLASSIFIED	19. SECURITY CLASSIFICATION OF ABSTRACT n/a	20. LIMITATION OF ABSTRACT n/a	

3D QUARTER, FY96, UPDATE TABLE OF CONTENTS

INTRODUCTION	2
DOCTRINE	3
TRAINING	12
LEADER DEVELOPMENT	21
ORGANIZATIONS	22
MATERIEL	26
SOLDIER	37
BATTLE LABS	40
TRADOC ANALYSIS CENTER	46
TRADOC REINVENTION CENTER	47
CADET COMMAND	48
ADDITIONAL INFORMATION	50



This is a pivotal time for the Army and the Training and Doctrine Command. Momentous changes in the strategic landscape, changes in our nation, and changes to our force structure present challenges and opportunities for all of us to accomplish the missions required of the U.S. Army. The business of TRADOC is to meet these challenges by identifying, developing, and fielding capabilities which are the right combinations of Doctrine, Training, Leader Development, Organizations, and Materiel to support our Soldiers. Following are some of the Army/TRADOC initiatives that will impact on the Army, our soldiers, and organizations in the not too distant future.

**GENERAL WILLIAM W. HARTZOG
COMMANDER
U.S. ARMY TRAINING AND DOCTRINE COMMAND**

DOCTRINE

The Army's doctrine lies at the heart of its professional competence. It is the authoritative guide to how Army forces fight wars and conduct operations other than war. Never static, always dynamic, the Army's doctrine is firmly rooted in the realities of current capabilities. At the same time, it reaches out with a measure of confidence to the future. Doctrine captures the lessons of past wars, reflects the nature of war and conflict in its own time, and anticipates the intellectual and technological developments that will bring victory now and in the future.

FM 100-5, Operations: The latest version of 100-5 was published on the Army's 218th birthday, June 14, 1993. As the Army's keystone manual, it focuses on warfighting, yet it addresses the full range of conditions within which the Army will operate. TRADOC has developed and fielded an education package containing teaching points on new concepts as they pertain to illustrated historical examples used in FM 100-5. The education package contains a CD-ROM disk, 35mm slide presentation, and video tape. TRADOC has distributed the education package down to division level with sufficient copies for each brigade-size unit. Contact or write Joint Visual Information Activity, Warehouse 3, Bay 3, Tobyhanna Army Depot, Tobyhanna, PA 18466-5102, DSN: 795-7937, COMM: (717) 894-7937, FAX DSN: 795-6106 for a copy of the education package. FM 100-5 will be revised in the near future.

FM 100-7, Decisive Force: The Army in Theater Operations:



The Army's capstone manual for conducting operational-level activities linking tactical-level actions to theater objectives. This manual describes the requirement for the Army Service Component Commander (ASCC) to conduct the three strategic and operational-level roles: establish joint, combined, interagency, non-governmental agencies, and private voluntary organization linkages; conduct support operations; and conduct operations. (Published May 95.)

FM 100-8, The Army in Multinational Operations: Will be the Army's capstone manual for conducting multinational operations. This manual addresses multinational command and leadership considerations, discusses factors affecting planning, describes possible coalition/alliance command structures, and functional considerations for the commander at the operational and tactical level. It includes host nation support and a guide for coalition operations. (To be published 3rd QTR FY 96.)

FM 100-10, Combat Service Support (CSS): This is the capstone CSS manual that depicts the Army CSS organizations and describes how they support commanders at all echelons by integrating supply, transportation, maintenance, health services, personnel support, and field services. It provides the basis for subordinate CSS doctrine, materiel, training, and organizational development. (Published Jul 95.)

FM 100-12, Army Theater Missile Defense (TMD) Operations: This manual will describe roles, responsibilities, requirements and functions for each of the operational elements of TMD. It is being developed in consonance with approved joint doctrine and will integrate insights derived from the 1995 TMD AWE, where applicable. FM 100-12 will address the threat, active defense, passive defense, attack operations and C4I. Emphasis will also be given to integration of Army TMD efforts throughout the theater. The initial draft of the manual underwent world-wide staffing 29 September - 30 November 1995. Copies of the Initial Draft were sent to over 130 Army, Joint and operational field elements. Coordinating Draft was sent out for staffing in March 1996. (To be published 1st Qtr FY 97.)

FM 100-13, Battlefield Coordination

Detachment (BCD): This manual provides capstone doctrine for BCD operations and serves as the basis for the BCD's Table of Organization and Allowance. The FM describes the BCD's organization, mission, and functions; discusses the BCD's interface with the ARFOR staff, the JFACC's Joint Air Operations Center (AOC), the Navy's Tactical Air Control Center (TACC) and the Marine's Tactical Air Command Center (TACC); and specifies the BCD's liaison, communications, and automation requirements. The Final Draft DRAG is on 5 April 1996. CG TRADOC has appointed the DCG, Combined Arms Command as the approving authority for this manual. (To be published 4th QTR FY 96)

FM 100-15, Corps Operations: The new FM 100-15 succinctly aligns Corps and Army-level doctrine. The central focus of the manual will be warfighting. The manual also will address force projection operations and the structure of the battlefield and battle command of the corps. Finally, it will delineate battlefield responsibilities in the joint environment, to include operations as a JTF/ARFOR headquarters. (Approved for publication Oct 95).

FM 100-16, Army Operational Support: This manual addresses operational-level logistics and support functions - CONUS through theater-level. It specifically addresses the operational commander's vision of support; keys to operational support; theater organization and structure, operational-level CSS functions; operational-level support function, force protection and rear operations. FM 100-16 also reflects the current Army focus on contingency operations and force projection. (Published May 95.)

FM 100-17, Mobilization, Deployment, Redeployment, and Demobilization (MDRD):

This manual is a guide for Army commanders and planners, involved in MDRD. It describes the process used to MDRD Army elements through the use of required assets (forces/units, manpower/individuals, facilities, and logistics). The manual also introduces the reception, staging, onward movement, and integration (RSO&I) process. FM 100-17 serves as a link to other manuals currently under development: FM 100-17-1, Army Pre-positioned Afloat Operations; FM 100-17-2,

Army Pre-positioned Ashore; FM 100-17-3, RSO&I; FM 100-17-4, Deployment; and FM 100-17-5, Redeployment. The final draft version of FM 100-17 is being prepared for a Doctrinal Review and Approval Group review in April/May 96. (To be published 3rd Qtr FY 96.)

FM 100-17-1, Army Pre-positioned Afloat (APA) Operations:

In March 1993, it was determined the only way the military could increase its deployability was to expand its investment in three areas: Army Strategic Mobility Program triad; sealift, airlift, and afloat pre-positioning. This manual establishes the doctrinal framework for one portion of that triad, Army War Reserve-3, APA. APA is the expanded reserve of equipment for an armor brigade, theater-opening CS/CSS units, port-opening capabilities, and sustainment stocks aboard forward deployed pre-positioned afloat ships. This manual describes APA operations to include missions, capabilities, command relationships, communications, and security. It discusses the organization, responsibilities, and command relationships ranging from the National Command Authorities, Joint Chiefs of Staff, Combatant Commander (CINC), to the Brigade Commander performing the APA mission. (To be published 3rd QTR FY 96.)

FM 100-18, Space Support To Army

Operations: The Army's capstone manual on how to use space system capabilities to enhance mission accomplishment across the full range of military operations. It emphasizes enhancements offered by space systems in communications; reconnaissance, intelligence, surveillance, and target acquisition (RISTA); weather, terrain, and environmental monitoring, position and navigation; and missile warning. This manual provides a foundation for leader development, training, and space-related modernization initiatives that support the Force XXI Army's missions and provides soldiers with a decisive advantage worldwide. It is relevant from the highest levels of command to the soldier in the foxhole. (Published Jul 95.)

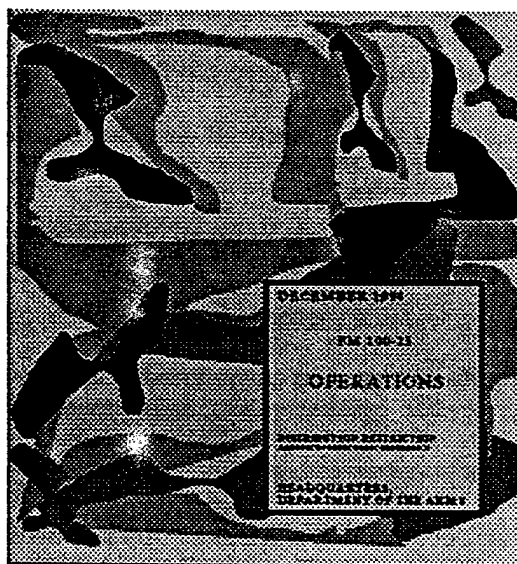
FM 100-19, Domestic Support Operations:

Describes the concept, interface, and process of providing Army assistance to U.S. civil authorities. It serves as a reference for service and professional military education and includes mandated and legislated

requirements. It includes considerations and principles for command and staff planning and execution. FM 100-19 incorporates lessons learned from numerous operations and recognizes the requirements dictated by the National Military Strategy. Coordination with DA staff, TRADOC, MACOMs, CINCs, joint staff, and federal, state, and local governmental agencies is being conducted to ensure harmonized actions. Finally, this manual emphasizes the linkages of interagency operations and missions. (Published Jul 93.)

FM 100-20, Stability and Support Operations: This is a capstone manual that provides the basis for Army support to various national policy options in Stability and Support Operations. It provides leaders with a basic concept of, the political-military environments in which they are conducted, and the nature of national goals and objectives in these environments. It is the starting point for development of plans and orders. (To be published 3rd QTR FY 96.)

FM 100-23, Peace Operations:



Provides guidance to commanders for conducting the full range of missions in support of international peacekeeping and peace enforcement efforts. This manual addresses the special requirements of these operations, to include planning, force tailoring, command, control, coordination, liaison, logistics and intelligence. It also reviews the unique operational environment of peace operations,

including United Nations and non-United Nations' operations, as well as the requirements for operations in the interagency arena and with multinational forces and non-governmental organizations. It applies the principles and tenets of Army operations to peace operations and examines the variables of consent, use of force, and impartiality. (Published Dec 94.)

FM 100-25, Army SOF Operations: This manual describes the operational capabilities and fundamental principles of the U.S. Army Special Operations Forces (ARSOFF). It provides the authoritative basis for the subsequent development of special operations (SOF) doctrine, training, capabilities, and equipment. Its intent is to give commanders a framework for the proper employment of SOF. (1st Draft will be out for staffing by 3rd QTR FY 96)

FM 71-100, Division Operations: This manual addresses tactical operations of the division in war. Focus is on division deployments and war fighting. It will apply new concepts addressed in FM 100-5 to division operations. The new FM 71-100 will be integrated both vertically and horizontally with recently written field manuals such as FM 101-5, Staff Organization and Operations; and TTP manuals FM 71-100-1, Armor and Mechanized Division Operations, FM 71-100-2, Infantry Division Operations, FM 71-3, The Armored and Mechanized Brigade and FM 7-30, the Infantry Brigade. (Approved for publication Oct 95.)

FM 71-3, Armored and Mechanized Infantry Brigade: The U.S. Army Armor Center is proponent for this manual. They are writing it in concert with the U.S. Army Infantry Center and School. The latest version of FM 71-3 incorporates new Army doctrine reflected in the 1993 edition of FM 100-5. The manual will include doctrine and tactics, techniques and procedures for armored and mechanized brigades in conducting operations across the entire range of military operations. (Approved for publication Sep 95.)

FM 71-2, Tank and Mechanized Infantry Battalion Task Force: The U.S. Army Infantry School is lead for this manual; co-proponent is U.S. Army Armor Center. The revised FM 71-2 will incorporate new Army doctrine reflected in

the 1993 version of FM 100-5. The focus of this manual will be warfighting. It will provide TTP for employment of force as it exists and will provide appendixes for digitization of the tank and mechanized infantry battalion task force. (To be published 4th QTR FY 97.)

FM 71-1, Tank and Mechanized Company Team: The U.S. Army Armor Center is lead for this manual; co-proponent is the U.S. Army Infantry School. Revised FM 71-1 will provide tactics, techniques and procedures for the M1A2 and Bradley company/team. It will refine mission profiles and provide TTP for heavy/light link-up and operations with task force scout platoons. (To be published 3rd QTR FY 97.)

DA PAM XX-XX, Blueprint of the Battlefield (BOB): The BOB is a comprehensive hierarchical listing of Army battlefield functions and their definitions. It collectively includes blueprints for each level of war, i.e., strategic, operational and tactical. It also serves as a common reference system for field commanders, combat developers, analysts, trainers, and planners for analyzing and integrating operations. It assists staffs and field organizations in relating Army needs to Army missions. This pamphlet also provides a basis for describing Army requirements, capabilities, and combat activities at the three levels of war. The BOB is being developed in conjunction with a similar effort for Joint-level operations called the Uniform Joint Task List (UJTL). The BOB and UJTL will mirror each other at the operational and strategic-levels. Currently the BOB is being staffed for comment Army wide. (To be published 3rd QTR FY 96.)

TR Reg 25-32, TRADOC Doctrinal Literature Program (TDLP): This manual establishes policy and assigns responsibility for writing, coordinating, integrating, reviewing, and approving doctrinal literature. It applies to TRADOC and non-TRADOC preparing agencies responsible for doctrine development and production. It provides a common framework from which doctrine writers Army-wide are able to work together toward translating concepts and establishing consensus on the "body of thought" that is doctrine. This manual is currently being staffed for review and comment. (To be published 4th Qtr 96.) (POC Army Doctrine: COL Baldwin, DSN: 680-3080 PROFS -

BALDWINR or email BALDWINR@monroe.emh10.army.mil)

JOINT DOCTRINE

The major efforts under way in JDD at this time are JP 3-56, Command and Control Doctrine and Procedures for Joint Operations; JP 3-09, Doctrine for Joint Fire Support; JP 5-00.1, Joint Tactics, Techniques, and Procedures for Joint Campaign Planning.

The Joint Doctrine Working Group meeting of 18-19 Jan 96 directed a complete rewrite of JP 3-56 and revisions to the 3rd Draft of JP 3-09. The Joint Doctrine Directorate (JDD) will develop the first draft of the new JP 3-56 by focusing on the desires of the warfighting CINCs. JP 3-09 is poised for closure in several months. JP 5-00.1 had a productive Joint Doctrine Working Group effort in late January, and is also poised for closure.

The Joint Doctrine Directorate is guided, in all that it does, by the CJCS' statement that the CINCs' warfighting requirements = Joint warfighting doctrine. We attempt to advocate jointness in our work.

The Joint Doctrine Directorate's primary task is authorship of 24 joint publications. Since August 1995, JDD has implemented several initiatives which markedly enhance its ability to perform that mission.

The Joint Doctrine Director is COL Michael L. Smith. He can be reached at DSN 680-3153/3951 or email: smithm@monroe-emh10.army.mil Your comments are truly welcome.

Publications Update

JP 3-0, Doctrine for Joint Operations: TRADOC has written 12 joint publications that the joint staff has approved and published. The most significant of those is JP 3-0. It is the joint equivalent of FM 100-5 Operations and affects most other important pubs in the joint system. (Published Sep 1993). POC COL Smith DSN 680-3153 email: smithm@monroe-emh10.army.mil)
JP 3-07, Joint Doctrine for Military Operations Other Than War: Expands the

discussions in JP 3-0 of the principles and considerations associated with joint operations below the level of large scale, sustained combat operations. Names many of the operations and provides examples of the principles of MOOTW in action. (Published and distributed) (POC Mr. Rinaldo DSN 680-2965 email: rinaldor@monroe-emh10.army.mil)

JP 3-07.3 JTTP for Peace Operations: Expands work done in the previously approved JP 3-07.3, JTTP for Peacekeeping Operations, in order to include Peace Enforcement. (First draft to be distributed in April 1996) (POC Mr. Rinaldo DSN 680-2965 email: rinaldor@monroe-emh10.army.mil)

JP 3-07.6 JTTP for Foreign Humanitarian Assistance: Provides procedures to be used by joint forces in conducting humanitarian assistance in overseas foreign areas. Describes interfaces between the joint task force with non-governmental organizations (NGOs) and private voluntary organizations (PVOs) likely to be operating in such areas. (To be published 1st Qtr FY97)

(POC Mr. Rinaldo DSN 680-2965 email: rinaldor@monroe-emh10.army.mil)

JP 3-07.7 JTTP for Domestic Support Operations: Provides procedures to be used by joint forces in conducting support within the continental US, Alaska and Hawaii, and territories and possessions. Applies to major categories of Military Support to Civil Authorities (MSCA) and Military Support to Law Enforcement Agencies (MSLEA). (To be published 2nd Qtr FY97) (POC Mr. Rinaldo DSN 680-2965 email: rinaldor@monroe-emh10.army.mil)

JP 3-09, Doctrine for Joint Fire Support: Clarifies relationships and responsibilities for those fires that assist land and amphibious forces to maneuver and control territory, populations, and key waters. Included are discussions on issues such as FSCL, Joint Targeting Coordination Board (JTCB), and relationships between air, land, and sea components. JP 3-09 supports a series of pubs such as JP 3-09.1, Joint Laser Designation Procedures, JP 3-09.2, JTTP for Radar Beacon Operations and JP 3-09.3, JTTP for Joint CAS. (Final pub 3rd Qtr 96). (POC LTC

Liivak DSN 680-2778 email: liivakh@monroe-emh10.army.mil)

JP 3-15, Joint Doctrine for Barriers, Obstacles, and Mine Warfare: Provides barrier, obstacle, and mine warfare guidelines for the planning and execution of theater strategy, campaigns and joint operations during peacetime or combat operations. Describes command and control, employment and countering enemy employment. Current Pub is under revision. (POC MAJ Henry DSN 680-2888 email: henryr@monroe-emh10.army.mil)

JP 3-18, Joint Doctrine for Forcible Entry Operations: Provides guidance concerning joint forcible entry operations. This publication addresses forcible entry principles associated with Command and Control, planning, execution, and support, as well as the interface between airborne, special operations forces, and naval expeditionary forces (amphibious forces). The proposed final pub is at the Joint Staff. (POC MAJ Stein DSN 680-3892 email: steinb@monroe-emh10.army.mil)

JP 3-18.1, Joint Airborne and Air Assault Operations: Provides guidance on employment of airborne and air assault forces. This publication integrates existing Service doctrine into a single source publication that addresses principles of Command and Control, planning, execution, and support requirements involving airborne and air assault operations. The 2nd draft was distributed May 95. (To be published 2d Qtr FY 96). (POC MAJ Stein DSN 680-3892 email: steinb@monroe-emh10.army.mil)

JP 3-56, Command and Control Doctrine and Procedures for Joint Operations: This revision is intended to provide overarching guidance on joint force command and control procedures and techniques. This will include staff functions, organizations, information management, and systems integration. This pub was assigned to HQ TRADOC for re-write on 26 Jan 96. Author's methodology includes early collection of CINC input, extensive literature search, joint operations historic review, interviews of experts, and observations and lessons learned from joint exercises and operations. Currently conducting research/gathering information. Coordinating CINC Input Conference for 3-4 Apr 96. (POC

LTC Gregory DSN 680-3454 email: gregoryr@monroe-emh10.army.mil)

JP 4-00.1, Joint Tactics, Techniques, and Procedures for Common User Logistics During Joint Operations: The Joint Warfighting Center is proposing at the 16-17 April 1996 Joint Doctrine Working Party (JDWP) that the Army be assigned as the lead agent (LA) for developing this publication. This joint publication will standardize guidance across logistics functional areas and provide a single source publication for conducting common user logistics operations within a theater and a joint task force. (POC LTC Quinn DSN 680-2298 email: quinnm@monroe-emh10.army.mil)

JP 4-06, Joint Tactics, Techniques, and Procedures for Mortuary Affairs in Joint Operations: This publication establishes joint doctrine and provides joint tactics, techniques, and procedures (JTTP) for mortuary affairs in joint operations to a joint force commander (JFC) and staff. It outlines procedures for the search, recovery, evacuation (to include tracking of remains), tentative identification, processing, and/or temporary interment of remains in theaters of operations. JP 4-06 was released for world-wide staffing 1 Mar 96, as a Proposed Pub, for final coordination. Publication of the pub is expected for 4th Quarter, FY96. (POC LTC Quinn DSN 680-2298 email: quinnm@monroe-emh10.army.mil)

JP 5-00.1, Joint Tactics, Techniques, and Procedures for Campaign Planning: Provides guidelines for the planning of theater and subordinate campaigns. Expands on guidance currently found in JP 3-0, Doctrine for Joint Operations, JP 5-0, Doctrine for Planning Joint Operations, and JP 3-56, Command and Control Doctrine and Procedures for Joint Operations. Discusses considerations for the application of operational art, elements of design and the integration of strategic and operational functions. Held joint working group (23-24 Jan 96) to review comments received from the worldwide review of the second draft of JP 5-00.1. Will submit Final Pub to DAMO-FDQ in Mar 96. (POC LTC DeSosa DSN 680-4134 email: desosam@monroe-emh10.army.mil)

Proposed Pub: Joint Reception, Staging, Onward Movement, and Integration (JP RSOI): The Army (DAMO-FDQ) will propose developing a joint pub on JP RSOI at the Joint Doctrine Working Party, 16-17 April 1996. This initiative is a result of military deployment issues that were identified during the JOINT VENTURE (Bosnia) deployment, and lessons learned from the DESERT SHIELD/DESERT STORM deployment. The TRADOC DCSDOC has assigned the Mobility Concepts Agency (MCA) to author the pub. The Transportation School is currently developing Army doctrine on RSO&I, FM 100-17-3. (POC LTC Quinn DSN 680-2298 email: quinnm@monroe-emh10.army.mil)

The CINC Joint Warfighting Doctrine Support Program: This program, in place since 1992, has been radically modified. Formerly, a HQ TRADOC-only team visited each of the CINCs annually. Beginning in 1995 the team visited only the five warfighting CINCs. Though much was accomplished, it became clear to the CINCs' warfighting staffs and TRADOC that the team's composition begged for joint representation. In January of 1996, TRADOC solicited and received the 06 level participation of the following organizations in this program:

- Doctrine Division, Joint Warfighting Center
- Doctrine Division, Naval Doctrine Command
- Doctrine Division, Marine Corps Combat Development Command
- Air Force Doctrine Center
- Air Land Sea Application Center
- Mobility Concepts Agency
- Joint Special Operations Forces Institute
- Joint Targeting School

The first visit this new team will conduct together is CDR, USFK 9-10 May 96, and CINC USPACOM 13-14 May 96. (POC LTC Quinn DSN 680-2298 email: quinnm@monroe-emh10.army.mil)

The Joint Doctrine Directorate Liaison Program: The so-called "Tidewater Advantage" (meaning the fortuitous clustering of all the Joint Staffs and the Service doctrine centers in close proximity to one another in the

Tidewater area) is only realized if you work at it. JDD has taken advantage of this by formalizing its liaison activities with the following:

- Joint Warfighting Center
- Naval Doctrine Command
- Marine Corps Combat Development Command
- Air Force Doctrine Center
- Air Land Sea Application Center
- Mobility Concepts Agency
- Joint Targeting School
- Battle Command and Training Program-Operations Group Delta
- MAGTF Staff Training Program
- Center for Low Intensity Conflict
- All Combatant CINCs
- All Functional CINCs
- Several Army Activities

By "formalizing" JDD means it has established a routine, continuous, information exchange infrastructure with the units identified above. Initial results of this information exchange have been encouraging. (POC LTC Liivak DSN 680-2778 email: liivakh@monroe-emh10.army.mil)

The Joint Doctrine Directorate Officer Professional Development (OPD) Program: JDD has secured the assistance of USACOM's J721's instructors (Unified Endeavor Seminar Team) in presenting OPD classes to JDD, HQ TRADOC, and the Tidewater Doctrine Community on Joint Operations. The program has been well-received (attendance average is 40 personnel) by the target audience, and has been highly educational. Three classes have been held. Upcoming classes include:

<u>DATES</u>	<u>TOPIC</u>
29 Mar	Joint Intelligence
Fundamentals	
12 Apr	Joint C4
Fundamentals	
26 Apr	Joint Logistics
Fundamentals	
10 May	Joint Targeting
23 May	Joint Fire Support
7 Jun	Joint Force Air
Component Commander	

12 Jun	Joint NEO
9 Aug	JTF C2 Fundamen-
tals	
23 Aug	Component
Capabilities/Limits (Navy	
	and Marines)
6 Sep	C2W/Air Defense
Operations	
20 Sep	Humanitarian
Assistance/Interagency	
	Operations
4 Oct	Joint Special
Operations	
18 Oct	Legal Services and
Operational Law	
1 Nov	Component
Capabilities and	
	Limitations (Air Force)
15 Nov	Joint Search and
Rescue	
6 Dec	Joint Medical
(POC LTC Liivak DSN 680-2778 email:	
liivakh@monroe-emh10.army.mil)	

The Joint Doctrine Directorate Quarterly Project Update Program: This program is intended to update the Joint and Service Doctrine communities; HQ TRADOC; and Allied Liaison Officers on JDD's projects and major issues being worked. The first quarterly was conducted on 16 Feb 96 with 58 attendees. The greatest benefit of this program is the information exchange such a forum allows.

(POC LTC Liivak DSN 680-2778 email: liivakh@monroe-emh10.army.mil)

Articles for Publication: Being submitted for inclusion in Joint Force Quarterly's winter 96 edition:

- Standing JTF HQ
 - Joint Doctrine Development Process
 - The Case for a Joint TRADOC
 - Joint Fire Support
 - Command and Control Procedures for Joint Forces
 - Joint Forces in Peace Operations
- (POC LTC Liivak DSN 680-2778 email: liivakh@monroe-emh10.army.mil)

Joint Warfighters Joint Test and Evaluation Nomination: Joint Warfighters is an approved

OSD JT&E nomination, currently in feasibility study phase. The JT&E will focus on the operational level of joint fires. Training, organization, material, C4I systems, and joint doctrine and TTP will all be affected by this JT&E. email: (POC LTC Liivak DSN 680-2778 email: liivakh@monroe-emh10.army.mil)

FUTURE DOCTRINE

The Army After Next: The Army After Next (AAN) initiative began during 2nd Quarter, FY96. The purpose of this initiative is to create a methodology and organization within DCSDOC to perform the function of supporting the CG, TRADOC with his mission to identify, develop, and articulate a long range/future vision for the Army. The intent is to provide the CG, TRADOC a staff vehicle for addressing issues dealing with the development of a force capable of meeting the full range of Army missions likely to be required in the world of 2020 and beyond. This force, labeled the AAN, is expected to be significantly different, both in form and function, than its predecessor, Army XXI. Determining what will change and how best to manage that change for the Army will be one of the primary concerns of this initiative. As the systems of Army XXI start to reach a point of obsolescence around 2015, an opportunity may exist to field a significantly different kind of Army.

Future Battle Directorate conducted three off-site events during the quarter to set the AAN process in motion. The first, on 18-19 January 96, focused on determining the appropriate methodology and organization to conduct the futures function. The second, on 22 February 96, focused on developing insights into the kind of environment that will most likely arise by 2020. The third, on 28 March 96 assembled a workgroup to start to identify significant technologies that could affect the nature of the AAN. All of these efforts will contribute to a comprehensive AAN CG, TRADOC commanders overview for the CSA to be published in June 1996. That overview is intended to set the stage for the first AAN Wargame in the Winter of 1996-97.

FM 100-6 Information Operations: As the Army's new capstone publication for Information Operations (IO), this manual supports the

National Military Strategy (NMS) and explains the fundamentals of information operations for the Army. Information Operations doctrine reflects, and goes beyond, the joint military strategy of Command and Control Warfare (C2W), which implements Department of Defense (DOD) and Information Warfare policy. Information Operations identifies information as a major influence on operations at the tactical, operational, and strategic levels.

It enables commanders to successfully integrate information, information systems, and their effects across the full range of military operations. Such integration enables and enhances the elements of combat power. Synergy is created which contributes to increased lethality, survivability and tempo in combat as well as highly credible capable forces in operations other than war. Moreover, IO doctrine addresses the framework that will enable the commander to use all available information, protect the ability to sense, process, integrate, decide, act on, and manage that information, as well as, exploit and deny the adversary's ability to do the same. This manual facilitates the transition of the total U.S. Army to the Information Age. (POC Future Doctrine: COL Starry, DSN 680-4126/PROFS-STARRY M or email STAR-RYM@monroe.emh10.army.mil)

INTERNATIONAL ARMY PROGRAMS

In support of the National Military Strategy and to enhance the U.S. capability for multinational force compatibility, TRADOC remains extensively involved in international activities with allied and friendly armies. Involvement includes bilateral staff talks and conferences with 10 armies, participation in approximately 40 multinational working parties, and several Subject Matter Exchanges (SMEE) with the armies of Japan, Latin America, and European nations. During the 3rd quarter, FY96, TRADOC will hold Steering Committee meetings with the United Kingdom and the Republic of Korea. Staff Talks will be conducted with Germany, France, and Brazil. Numerous SMEEs are scheduled, as well as several activities in support of EUCOM's mil-to-mil contact program. Visits by foreign military dignitaries will be hosted. (POC COL Whittenberg, DSN 680-2741, email: WHITTENS@monroe.emh1.army.mil)

INTELLIGENCE

FM 100-60 through 67, Opposing Forces (OPFOR). TRADOC Pam 350-12 through 17, Heavy/Light Opposing Force (OPFOR) Handbooks are under revision for publication as FM 100-60 through 67. TRADOC fielded the 350 series pamphlets for interim implementation until publication of the FMs.

FM 100-60, Heavy Opposing Force Organization Guide. Breaks from past tradition of focusing on one country and provides a flexible capabilities-based heavy opposing force model that represents various countries. It is not a fixed order of battle, but it provides the building blocks to derive a heavy force order of battle. It is fully adaptive to the training needs of the force projection Army. (To be published 4QTR FY96.)

FM 100-61, Heavy Opposing Force Operational Art. Provides an operational overview of the heavy capabilities-based opposing force. It contains military thought, strategic operations, offensive and defensive operations, troop control, reconnaissance, artillery, NBC and Smoke, air defense, engineer, logistics, airborne and special purpose forces. (To be published 2QTR FY97.)

FM 100-62, Heavy Opposing Force Tactics. Provides a tactical overview of the heavy capabilities-based opposing force. It contains combat formations, troop control, march, reconnaissance, offensive and defense tactics, fire support (artillery, antitank, air and air defense) NBC and Smoke, engineer, logistics, and radio electronic combat (To be published 1QTR FY97.)

FM 100-63, Light Opposing Force Organization Guide. Breaks from past tradition of focusing on one country and provides a flexible capabilities-based light opposing force that represents various countries. It is not a fixed order of battle, but it provides the building blocks to derive a light forces order of battle. It is fully adaptive to the training needs of the force projection Army. (Published April 96.)

FM 100-64, Light Opposing Force Operations and Tactics. Provides an operational overview and the tactics of the light capabilities based opposing force. It contains military

thought, organization for combat, combat operations, airborne and air assault operations, naval operations and amphibious landings, partisan operations, logistics, engineer, and rear area operations (To be published 4QTR FY96.)

FM 100-65, Opposing Force Equipment Guide. Provides a description and the capabilities of various types of military and related equipment available on the world arms market (To be published 1QTR FY98.)

FM 100-66, OPFOR in Operations Other than War. Provides a broad range of conventional and unconventional military threats the Army may face in a peacetime operation environment. It will allow the user to select a specific level of opposing force or tactical environment to meet the training needs of the force. It will not address disaster relief operations, where an opposing force is not present. The manual will describe non-mechanized small unit operations (battalions and below) and continue to the lowest level of the military spectrum; guerrilla forces (To be published 4QTR FY97.) (POC - Opposing Forces Directorate, LTC Jeff Dunham, DSN 680-5419, e-mail DUNHAMJ@monroe-emh10.army.mil) (POC - Threat Support Directorate, Mr Nick Comer, DSN 552-7937, PROFS COMERN LEA1 or E-mail COMERN@leavenworth-emh1.army.mil)

TRAINING



Our challenge is to maintain the essence of our education and training system, the Army University, not the pieces. This means a quality school system, but not necessarily at the current locations. Our training strategy must utilize the best combination of live, virtual and constructive simulations and simulators. This strategy must unite the many ongoing efforts into a clear, coherent vision to produce trained and ready units in the environment of the next century. Some of our efforts in that direction follow.

ARMY TRAINING XXI Programs and Initiatives:

Force of Tomorrow: The U.S. Army designs the 21st Century (Force XXI) beginning now to achieve related fielding and support decisions by the year 2000 in order to fully field the total Army force that is capable of meeting our Nation's 21st Century challenges. Force XXI will be built in a series of iterations guided by decisions made at successive quarterly DoD/Force XXI AAR meetings. The campaign includes three axes: Joint Venture (main axis); TDA/Institutional Army (supporting axis); and the Army Digitization Office (supporting axis). Using Joint Venture (JV), the Army is executing a series of Advanced Warfighting Experiments (AWE) and Advanced Warfighting Demonstrations (AWD) to define the force of tomorrow: Force XXI. The strategic objective is to transform the force from an Industrial Age Army to a knowledge and capabilities based, power projection Army (Force XXI), capable of

land force dominance across the continuum of 21st Century military operation, by redesigning the fighting forces and leveraging information technology to better support combat and sustainment base functions. As the Army creates Force XXI, we must concurrently develop the means and methods to train and sustain the force. To achieve the maximum potential of Force XXI, the Army must use a spiral development process allowing early decisions based on projected requirements and emerging concepts. By using the spiral development process, the Army can leverage technological improvements to continually integrate changes as tomorrow's force is developed. (POC - COL Marlin, DSN 552-4498/3919/e-mail: marlind@leav-emh1.army.mil)

Army Training XXI (AT XXI): TRADOC developed the AT XXI concept to ensure that training is included in every phase of Force XXI development. AT XXI integrates all the numerous on-going initiatives and future developmental efforts to produce a coherent, integrated training system and strategy for Force XXI. In June 1995, the Army Deputy Chief of Staff for Operations (DCSOPS) formally acknowledged AT XXI as the training component of the JV axis of the Army Campaign Plan to develop Force XXI. TRADOC's AT XXI concept incorporates three strategic plans in the development of the JV training component: Warfighter XXI (WF XXI), Warrior XXI (W XXI) and Warfighter Network (WARNET).

The WF XXI Campaign Plan (CP) is the main attack for AT XXI and focuses on the unit training pillar. The WF XXI CP provides a strategic vision and an integrated plan for how the future Army will train battle staff and collective tasks.

The W XXI CP focuses on the development of the institutional and self-development pillars of training. The W XXI CP provides a strategic vision and an integrated plan for the development of the Total Army School System (TASS) to meet the institutional and self development training needs of Force XXI.

WARNET XXI provides the linkage of training acquisition, new equipment training, and digitization of training support products.

WARNET XXI integrates training support needs into system hardware materiel requirements to ensure a complete training subsystem is fielded. WARNET XXI develops and provides new equipment training packages for proponent use in developing institutional training programs and exportable training products for units; and ensures that contractor developed training products are digitized in accordance with Army standards and integrated into the force. (POC LTC Rhodd, DSN 552-7810/e-mail: rhoddr@leav-emh1.army.mil)

AT XXI Conference: The AT XXI Conference was conducted 26 Feb - 1 Mar 96 at Hampton, VA. The purpose of the AT XXI Conference was to synchronize the resourcing, execution, and deliverables for Army training initiatives - WF XXI, W XXI, and WN XXI. ODSOPS message designated WF XXI as the training axis for the Force XXI Joint Venture axis. Two WF XXI conferences have been executed to date. The purpose of the WF XXI conferences was two-fold: to inform the Army at large of training initiatives to train the Army of the 21st Century and to institutionalize evolutionary change in how the Army will train as technology is leveraged to conduct mission oriented training within constraints of declining resources. (POC LTC Rhodd, DSN 552-7810/e-mail: rhoddr@leav-emh1.army.mil)

WARFIGHTER XXI Programs and Initiatives:

WF XXI COMPONENTS: The five components of the WF XXI campaign plan are: the Standard Army Training System (SATS); Training Support Packages (TSP); Training Aids Devices, Simulations, and Simulators (TADSS); the Standard Army After Action Review System (STAARS); and the Army Training Digital Library (ATDL). SATS (under development by the Army Training Support Center) provides an automated training management system designed to enhance the planning, resourcing, execution and assessment of battle-focused training for the unit and unit commander. Training Support Packages (TSPs) are a task based information package that provide structured situational training scenarios for live, virtual, and/or constructive training environments, and assist the commander in conducting and assessing training. TSPs (brigade and battalion) are

under development. Warfighter TSPs will be produced in ASAT and electronically connected to SATS through the ATDL. TADSS provides integrated, effective tools for the unit and institutional commander to efficiently conduct training. The STAARS provides a standardized, automated storage and distribution system giving the unit and institutional commander a training assessment and resource tool and the Army a doctrinal based information collection system. The ATDL (under development by the Army Training Support Center) stores the data and provides unit and institutional commanders access to data from many information sources necessary to plan, resource, execute, and assess training. (POC - COL Marlin, DSN 552-4498/3919/e-mail Mar-lind@leav.emh1.army.mil)

Standard Army Training System (SATS): SATS is a computer-based software system that automates training management doctrine found in Field Manual (FM) 25-100, *Training the Force*, FM 25-101, *Battle Focus: Training*, and FM 100-5, *Operations*. It provides for the opportunity to incorporate training plans and products, readiness reporting tools, calendars (3 dimensional), and schedules. It allows development and display of all unit activities at all echelons and, through the related databases, associated resources may be computed. SATS accesses and feeds all Army Training Digital Library (ATDL) components as well as other Warfighter XXI (WF XII) components. Using Microsoft Windows SATS version 4.0 serves as the keystone Army effort to bring training management into the twenty-first century. The system combines training doctrine with automation technologies to help trainers develop and manage their training programs. Future SATS (version 4.x) will provide enhancement to better support the needs of both Active and Reserve Component units with a wide array of training management features. SATS 4.x will be local area network (LAN) and wide area network (WAN) capable and support additional WF XXI components. (POC - Mr. Joe Dugan, DSN 927-4166, e-mail DUGANJ@eustis-emh20.army.mil)

Training Support Packages (TSP): TSP is a structured situational training template offering live virtual, or constructive battle staff and collective training events and assists the commander in executing and assessing

training. TSPs (WF) provide task based products (orders, overlays, execution matrices, etc) to plan, prepare and execute battle command/staff (individual through collective) and unit (collective) training.

Force XXI Training Program (FXXI TP) at Fort Knox is the lead effort for WFXI TSP development. FXXITP is focused on the mounted brigade and represents a prototype strategy for transitioning the Army from the way it trains today to how it will fight in the future. The FXXITP describes which tasks are to be trained to a given standard using prescribed live, virtual, and constructive simulations. Fort Knox has pioneered development of structured individual and small group staff training in the form of tables, and exercises based on detailed tasks, conditions, and standards (TCS).

Currently the Combined Arms Center (CAC) is in the early developmental stages of a structured division level staff training program called the Simulations based Division Army Trainer (SIMDART). SIMDART will provide the division commander a staff training vehicle for individual, staff group, and battle staff collective training. (POC - Major Lopez, DSN 552-3919/ e-mail Lopez1@leav.emh1.army.mil)

Deployable Range Package (DRP): This program is designed to provide deployed U.S. Forces with live fire and force-on-force training capabilities in the theater of operations. The training concept is to develop a light and heavy DRP to support brigade size elements. These will be configured to meet the commander's training needs and will include MILES, target lifting devices, targets and controlling weapons sustainment and live fire maneuver training. The heavy DRP will support all small arms qualification and sustainment training. The original concept was tested successfully during Operation Restore Democracy in Haiti and expanded to support exercise Intrinsic Action in Southwest Asia. Intrinsic Action included force-on-force company-level training and platoon/company live fire. The current training support concept includes individual and leader training using a mixture of live/constructive/virtual TADSS and video teletraining (VTT). This concept is being used to support training for units involved in Operation Joint Endeavor. Ranges have been

established in Hungary, and additional range requirements in Croatia and Bosnia are under consideration. VTT capabilities are planned for Hungary, as well as Macedonia. (POC - Mr. Goodman, DSN 927-2320, e-mail GOOD-MANW@eustis-emh20.army.mil)

Multiple Integrated Laser Engagement System (MILES) 2000: The proponent for this acquisition program managed by the Simulation, Training, and Instrumentation Command is the Combat Training Support Directorate (CTSD) of the Army Training Support Center (ATSC). The purpose of the program is to replace the ground direct fire basic MILES systems currently in the field at homestation. MILES devices shoot eye-safe "laser bullets" to simulate actual weapons systems and range from the M-16 rifle up to and including the M1A2 tank.

- MILES 2000 devices will incorporate a number of enhanced capabilities over those found in the current system, among them.
- Each player, to include manworn infantry systems, will transmit Player Identification (PID).
- Vehicle systems will be subject to multiple levels of kills, (i.e. catastrophic, firepower, mobility, and communications).
- Combat vehicles will be subject to aspect-angle dependent kills.
- All players will have the capability to store 500 time-tagged events for downloading and after action review purposes.
- All systems will incorporate improved manufacturing and power management techniques which promise to reduce support costs. (POC - Mr. Lembke DSN 927-4713/ e-mail Lemker@eustis-emh20.army.mil)

Simulated Area Weapons Effects/ Multiple Integrated Laser Engagement System II (SAWE/MILES II): The proponent for this acquisition program managed by the Simulation, Training, and Instrumentation Command (STRICOM) is the Combat Training Support Directorate (CTSD) of the Army Training Support Center (ATSC). The purpose of the program is to integrate the direct fire MILES force-on-force training capability with area weapon effects: indirect fire (artillery mortars, and naval gunfire), mines, and chemical and nuclear munitions. SAWE/MILES II devices will incorporate a number of enhanced capabilities over those

found in the current MILES system, among them:

- SAWE/MILES II incorporates Global Positioning System (GPS) to provide individual player (Vehicle Detection Devices and Manworn Detection Devices) determined position which is used to assess area weapons effects.

Vehicle Detection Devices and Manworn Detection Devices provide connectivity to Combat Training Center-Instrumentation System (CTC-IS).

Each vehicle transmits Player Identification (PID).

Each vehicle console has a built in test capability and provides the crew synthesized voice cues.

Vehicle systems will be subject to multiple levels of kills, (i.e. catastrophic, firepower, mobility, and communications).

Combat vehicles will be subject to aspect-angle dependent kills.

- Vehicles will have audiovisual cues to simulate engagement by area weapons.

Programmable time of flight for TOW missiles.

Manworn Detection Device has a M40 protective mask compatible interface to enforce chemical assessments based upon proper mask utilization.

All players will have the capability to store 500 time-tagged events for future downloading and after action review purposes.

- Mine Effects Simulators simulate antitank and antipersonnel mines.

A Chemical Agent Alarm Simulator is provided.

Mission Control Station provides a central user and fire mission interface, enabling both red and blue force play. (POC - Mr. Adkins DSN 927-4631/ e-mail Adkinsd@eustis-emh20.army.mil)

Standard Army After Action Review System (STAARS): STAARS standardizes all current and future After Action Review systems to provide trainers, training developers, combat developers with Doctrine, Training, Leader Development, Organizational Design, Material, and Soldier Systems (DTLOMS) base information and feedback on performance of systems, students, and units. It provides the training resource manager with usage rates and operating costs of all training resources. In the future, STAARS supports the data collection requirements of the force and

material development communities. The data from STAARS must be standardized, irrespective of the environment in which the exercise was conducted (live, virtual, constructive), and provide assessment of the unit's training proficiency, unit readiness, lessons learned, and resource management. future STAARS uses DSI as the Army's information highway to feed information to ATDL. (POC - Major Carpenter, DSN 552-3919/ e-mail Carpentm@leav.emh1.army.mil)

Army Training Digital Library (ATDL):

ATDL is the information foundation and the single, common component between Warfighter XXI, Warrior, XXI and Warnet XXI training campaign plans in support of the Army Training XXI training strategy. When implemented, the ATDL will provide a globally accessible digital repository of training knowledge sets and interactive applications to support training of individuals and units.

ATSC is developing ATDL to provide normal library functions, maintain a library information catalog, produce statistical and management information, provide a help desk and transmission of requested training information.

Objectives include gathering and consolidating Army training information, and to implement smart training technology that will fully support the needs of training developers, trainers, soldiers, and units. These objectives will be met through a broad range of initiatives that include communications, data digitization and collection, establishing file protocols, implementing a distributed architecture of standardized and integrated information. Development of the ATDL and its integration with other Army information systems will be a continuing process. The ATDL system is being designed with enough flexibility so that the Army can make use of future technologies.

The ATDL action plan, laying out developmental milestones, is being updated and will be included within the Functional Description. A Mission Needs Statement (MNS) has been completed and submitted to HQ TRADOC for coordination. Coordination of the MNS is pending briefing to the HQ TRADOC Information Management Support Council (IMSC). (POC - Mr. Baston, DSN 927-4767/e-mail: bastond@eustis-emh20.army.mil)

ATDL is the information foundation and the single, common, component between Warfighter XXI, Warrior XXI and Warvet XXI training campaign plans in support of the Force XXI training strategy. When implemented, the ATDL will provide a globally accessible digital repository of training knowledge sets and interactive applications to support the training of individuals and units.

ATSC is developing the ATDL to provide normal library functions, maintain a library information catalog, produce statistical and management information, provide a help desk and transmission of requested information. Objectives include gathering and consolidating Army training information, and to implement smart training technology. These objectives will be met through a broad range of initiatives that include communications, data digitization and collection, establishing file protocols, implementing a distributed architecture of standardized and integrated information.

A Mission Needs Statement and Functional Description have been completed. An action plan laying out developmental milestones has been completed in draft and is being staffed for comment. The ATDL development, and its integration with other Army information systems will be a continuing process. The system is being designed with enough flexibility so that the Army can make use of future technologies. (POC - Mr. Ham, DSN 552-7845/e-mail: hamj@leav-emh1.army.mil)

Army Training Information Management Program (ATIMP): The ATIMP mission is to integrate and standardize Army training information systems. An ATIMP Information System includes any system that automates the following functions: Army institutional training, individual and unit proficiency, training support. ATIMP core systems are the Automated Systems Approach to Training (ASAT), Standard Army Training System (SATS), Automated Instructional Management System-Redesign (AIMS-R), TRAMOD Executive Management Information System (TEXMIS), and Army Training Digital Library (ATDL).

Key functions in the ATIMP are:

Top-down management of Army training information system improvements.

Standardization of processes and practices across Army training.

Cross-functional integration of processes, data and information systems.

Central guidance and direction of information systems development and services, using

DOD-wide architectures, standard data elements, and common methods and tools.

The Army Training Model (ATM) is a critical element in the overall ATIMP mission. It is a guiding framework for all missions and functions in Army training. The ATM provides a common understanding of all Army training activities and data for Army leaders and managers, enabling them to integrate processes, data, and systems within and across missions and functions.

The ATIMP goal is to guarantee the standardization, functional and technical integration, interoperability, sharing, and accuracy of training information by ensuring functional area support and by facilitating the development of automated systems that support the Army's mission to manage training. (POC - Ms. Colbert, DSN 927-4166, e-mail COLBERTE@eustis-emh20.army.mil)

Operations Group Delta - JTF Training: Battle Command Training Program (BCTP), Operations Group D is tasked with the mission to prepare Army organizations for joint command and control roles. They work closely with Army service component commanders and Warfighting CINCs to bring the rigor of BCTP to joint exercises, in which an Army organization is acting as a JTF or ARFOR HQs. The primary training audience is the corps in a joint role, but divisions and ad hoc joint organizations have been supported. The team is capable of providing home station seminars, support to exercises, and support to operational missions. (POC - LTC Weith, DSN 680-5747/e-mail weithg@emh12.monroe.army.mil)

WARRIOR XXI Programs and Initiatives:

Warrior XXI: WARRIOR XXI defines those future activities in the TDA Army and the institutional axis of Force XXI required to train the total Army of the future. WARRIOR XXI has eight major initiatives. Each of these lanes represent a major initiative which will

dramatically change the way we organize and how we manage and train soldiers of the future. These initiatives are: Distance Learning, Classroom XXI, Deployable Training/Mission Rehearsal, Total Army School System (TASS), Diagnostics, Clusters & Satellites, Automation/Digitization, and Training Development. These initiatives will change the training paradigm for both institutional and self-development training. When combined with WARFIGHTER, the main effort, WARNET XXI and WARRIOR XXI will provide the architectural foundation for the future Army institutional schoolhouses. (POC - Mr. Buckley, DSN 680-5535/e-mail buckleyj@emh12.monroe.army.mil)

Distance Learning: Distance learning is a concept for the delivery of training to the soldier when and where it is needed. It is the engine of change that makes Classroom XXI achievable. Distance learning is not a discrete technology but incorporates a number of emerging technologies to move distributed learning from the realm of the possible to that of the practical. These technologies range from simple paper applications to complex distributed interactive simulations. Two of the main technologies for the future will be computer based multimedia programs and interactive video training. Generally, learning is distributed in either a synchronous mode (real time) or asynchronous mode where it can be retrieved without time constraints. A new requirement will be emerging for Army Training Support Cluster (ATSC) to publish "TV Training Guides" which provides a schedule of "live" or synchronous listings. These should also include other DoD and programs provided by civilian organizations linked into the Army system. A media library catalog for asynchronous training materials will be provided through the Army Training Digital Library (ATDL). This will be accessible via extensive worldwide corporate and government electronic networks which provide a range of capabilities from simple text transmissions to VTC. POC - Ms Brown DSN 680-5529/e-mail brownj@emh12.monroe.army.mil

Classroom XXI (CR XXI): CR XXI is a major effort within WARRIOR XXI that will lead TRADOC to the 21st Century. CR XXI focuses on the use of technology to leverage information in a variety of ways to increase the Army's war fighting capability. The goal of CR

XXI is to take the classroom to the battlefield and the battlefield to the classroom. It will provide world-wide access to digital information, training, and simulation. Established networks will provide a natural evolution to integrating the classroom with unit training and providing maximum participation in joint and combined training ventures. CR XXI, in essence, creates an environment which capitalizes on many diverse technologies. Multimedia classrooms have the capability to allow worldwide access to information or expertise via such technologies as video teletraining (VTT) and Internet to import training. An essential element is the digital formatting of training support materials. The digital format of the training database (training materials and products) will enable faster, more economical means of delivery including automated testing. It will provide a firm foundation for the automation of training development and training management. Communication links will be made within and between Clusters and Satellites, the CTCs and units. VTT/VTC and fiber optic networks will be established for both fixed and mobile sites. These communications will support the sustainment of the TASS and help establish the Army Knowledge Network and a Classroom XXI which will bring training to the soldier any time and any where in the world. POC - Ms Moore DSN 680-5527/e-mail moorem@emh12.monroe.army.mil

Total Army School System (TASS): The Total Army School System (TASS) was implemented as of 1 October, 1995 with the official standing up of the TRADOC Coordinating Element (TCE) at Fort Monroe, VA, and seven Regional Coordinating Elements (RCE). The RCEs are located at Fort(s) Devens (Region A), Lee (Region B), Jackson (Region C), Knox (Region D), McCoy (Region E), Sill (Region F), and Lewis (Region G). The TCE and each of the RCEs have their own Unit Identification Code (UIC) and operate as an independent organization. Staffing at the RCEs is made up of ten full-time personnel from all components (AC/USAR/ARNG). An overarching TASS Operations Plan (OPLAN-2) was developed, staffed, and distributed to the Army Training Community with guidelines for TASS Implementation. The TCE, TRADOC executive agent for TASS, supervises the RCEs and manages the TRADOC Quality Assurance Program and Policy. The RCEs are

responsible for tracking training within their regions, assisting in the resolution of training issues, verifying corrective actions on accreditation issues, regional ammunition management, and oversight of Title XI soldiers. First and Fifth U S ARMY serve as the FORSCOM executive agents for TASS and are responsible for coordinating Annual Training (AT) locations, facilities, courseware, equipment, and assist in identifying training priorities for units. Army National Guard (ARNG) and U S Army Reserve Command (USARC) responsibilities include resourcing units to support individual training requirements, ensuring equipment availability based on training requirements, participating in the Structure and Manning Decision Review (SMDR), Training Requirements Review Panel (TRAP) processes, and maintaining coordination relationship with the RCEs. TRADOC Proponent Schools are responsible for Program of Instruction (POI) development, Instructor Certification, and school accreditation. The TASS transition year is FY96, full implementation FY97, with school accreditation to begin in FY98. (POC - COL Lovett, DSN 680-5579/e-mail loveth@emh12.monroe.army.mil)

Total Army Training System (TATS) Course: Development and implementation of TATS courses are objectives of the Total Army School System (TASS). Toward this end, one of the key goals of the TASS is to transition from Reserve Component Courseware (RC3)/Active Component courses into TATS courses. The value of TATS courses lie in the Army's ability to ensure that soldiers in all components are trained to the same performance standard. Specifically, a TATS course is defined as a course designed to train the same Military Occupational Specialty/Area of Concentration (MOS/AOC) skill level, Additional Skill Identified (ASI), Language Identifier Code, Skill Qualification Identifier, or Skill Identifier with the Total Army. The TATS course ensures standardization by training, testing, and evaluating all course critical tasks to the same task performance standard although training may be conducted at different sites and may involve use of different media/methods for various phases/modules/lessons. Unlike RC3, all course critical tasks taught to the AC are taught to the RC community. TATS Implementation Guidelines and Policy was provided to

proponent schools in September 1995. Implementation guidelines include resource implications and key Systems Approach to Training considerations associated with TATS courses. The overall goal is for proponent schools to completely transition from RC3/AC courses to TATS courses over the next 5 years. (POC - Ms. Vallery Doe, DSN 680-5587/e-mail doev@emh12.monroe.army.mil)

Diagnostics: Diagnostics consists of an assessment which identifies soldier strengths and weaknesses across the individual training hierarchy – task through military occupational specialty (MOS). If a soldier needs remediation, the diagnostic will provide access to training or doctrinal materials to guide soldier improvement. Through on-line electronic libraries, soldiers with a computer and modem will be able to access diagnostics through the Internet or electronic bulletin boards from their units or homes, and may download materials for study at their convenience. Potential uses for diagnostics are numerous and support all three pillars of leader development. Diagnostics will be used by soldiers to self-develop for new duty assignments or additional duties, sustain current knowledge, and to complete prerequisites prior to institutional training. Supervisors will use diagnostics to assess individual training readiness and to verify soldier knowledge prior to assignment of critical duties. Units can use diagnostics to access training during deployment or while in remote locations. Institutions will use diagnostics to ensure soldiers report to courses with prerequisite knowledge, tailor course plans of instruction to match soldier strengths and weaknesses, and allow soldiers to test out of some subject areas so they can focus on areas of weakness or pursue independent study. ATSC is designing several diagnostics to demonstrate "proof of principle." These prototypes will showcase uses of diagnostics in functional courses, common subjects, and MOS tasks. Common subjects currently under development include Training Management; Military Operational Terms and Symbols; Basic Map Reading; Map and Terrain Association; SOI, Codes and Authentication; Antennas; SINCGARS Net Control Station Procedures; and Field Wire Laying Techniques. In the MOS/duty position domain, diagnostics will

soon be available for Unit Movement Officer and 13F Fire Support Specialist. POC - Ms. Spath, DSN 927-4785/e-mail Spathk@Eustis.emh20.mil

Automation/Digitization: The automation/digitization initiatives provide the transition to the Info Age Army of FORCE XXI. These efforts range from the simple conversion of text to digital formats to training in world-wide distributed interactive simulation exercises using high-fidelity digital representations of actual terrain. The full integration of these computer technologies will greatly enhance our education and training posture and our ability to disseminate and use information. Technology is most cost effective when it replaces, not augments conventional instruction. Current generations of compact optical discs can store 640 megabytes of data which translates to roughly 200,000 pages of text. This equates to a hundred volume encyclopedia. Reproduction cost per compact disc is approximately \$3 per disc. The cost savings are coupled with increased capabilities. The same disc which stores text can also store audio and video formation. Costs of storage are continuing to shrink. For example, a holographic storage device using 35 mm slide size storage cards can store a gigabit of data for the cost of one dollar. While this capability is impressive, it is not sufficient for elaborate synthetic environments or virtual systems. New high density CD-ROM's which can store 5000+ megabytes of data will provide this capability. Although there is still some industrial discussion, it appears that this new format will be called "Digital Versatile Disc." Because they are not compatible with current generation CD-ROM systems, caution should be exercised in making massive investment in technologies that will shortly become obsolete. A fielding plan must be developed so that the user community has the requisite hardware in sufficient quantities to utilize CD-ROM's or DVDs. This fielding plan must include considerations for erasable CD-ROM and DVD technologies, as many of the applications envisioned will require editing and user inputs. POC - Mr Gregory DSN 927-4468/e-mail gregorym@eustis-emh20.army.mil.

TRADOC Regulation 350-70: The TRADOC Regulation 350-70, Training Development Management, Processes, and Products, is a

consolidation of all training development (TD) policy (13 TRADOC regulations, four TRADOC pamphlets, several TRADOC memorandums, and TD policy extraction from two other training regulations) into one regulation. The regulation covers the TD process (the Systems Approach to Training (SAT)); training/TD management; Total Army School System (TASS); QA/evaluation including accreditation; instructor certification; training product development (individual, collective, self development); and HQ TRADOC, DCST vision of TD initiatives that support Force XXI, including WARRIOR, WARFIGHTER, and WARNET XXI Training Support Package (TSP) description/components; CTC interface; Classroom XXI; distance learning; automation; etc. The result of this consolidation is--

- A reduced number of TRADOC regulations
- Elimination of duplicative, conflicting, and outdated policy and processes
- Streamlined policy that is easier to read and understand (Information Mapped)
- An increased number of and expanded procedural pamphlets
- Clarified and simplified processes.
- Standardized product formats, individual task numbering system, and task titles/verbs.
- Clarified and aligned individual and collective training strategies and supporting plans.
- Written and graphic links to other products, process phases, and TD-related systems (e.g., CBRS, PPBES) via flow charts (needed for automation).
- New TRADOC TD management guidance, including TD workload and manpower management and use of Foreign Disclosure restriction statements (result of TRADOC IG inspection) as well as safety, risk assessment/management, and environmental considerations (DA mandate) in all training/products. (POC - Rachel Serio, DSN 680-5576/e-mail serior@emh12.monroe.army.mil)

TRADOC Staff and Faculty Training

Program: The Staff and Faculty Training Program is composed of three major elements: HQ TRADOC (DCST), schools/training battalions, and the Army Training Support Center. As the policy proponent, the DCST is responsible for standardizing, approving, and managing staff and faculty development which is required Army wide, TRADOC-wide, or at multiple TRADOC sites such as instructor

training, small group facilitator training, and training development training. DCST offers consolidated centralized training manager training in the Senior Training Managers' Course and the Training Developer Middle Managers' Course. TRADOC and RC schools (training battalions) offer staff and faculty development using the mandated instructor training, the standardized Small Group Instruction Training course, and the Systems Approach to Training course. The TRADOC staff and faculty development elements also provide training to meet local requirements. The ATSC program is a centralized support system to develop and deliver standardized video teletraining for Active and Reserve Components (AC and RC) instructors as part of the Total Army School System (TASS). As program manager, ATSC will provide standardized training, course design, development, delivery (to include multimedia technology), certificates, course material reproduction, and student management. Under the TASS concept, AC and RC instructors can be linked via satellite to the proponent responsible for instructor training. ATSC's efforts currently focus on three standardized courses: Small Group Instructor Training Course (SGITC), Total Army Instructor Training Course (TAITC), and Video Teletraining Instructor Training Course (VTTITC). These courses have the option of being delivered in a regular classroom setting or via distance learning technology to facilitate standardized cost effective training Army wide. Currently, the SGITC and VTTITC are available for use. The TAITC should be available in 4th Qtr FY 96. Other selected Staff and Faculty courses will be considered for conversion to delivery using distance learning technology in the near future. (POC - Dr. Spangenberg, DSN 680-5590/e-mail span-genr@emh12.monroe.army.mil)

Gender Integrated Training (GIT): In October 1994 Forts Jackson and Leonard Wood began executing gender integrated Basic Combat Training (BCT) or GIT, as it has become known. Under GIT, female soldiers no longer attend BCT in all-female companies. Female soldiers are now intermixed with males in gender integrated companies (optimum mix 75% male/25% female). The BCT Program of Instruction (POI) and standards have not changed. TRADOC has formed a Steering Committee headed by CG, Fort Jackson,

consisting of representatives from Forts Jackson and Leonard Wood, Fort Benning (BCT Proponent), Army Research Institute (ARI), HQ, TRADOC, and HQDA, ODCSOPS to monitor GIT implementation during this first year and develop recommended policy adjustments needed for successful long term implementation. The committees' final report to HQ TRADOC will be submitted in Jan 96 with any policy adjustments taking place in FY 96. (POC - SFC Blakey, DSN 680-5621/e-mail blakeyc@emh12.monroe.army.mil)

Military Training Structure Review (MTSR):

In January 1993, the Services Interservice Training Review Organization (ITRO) initiated a three-year, Joint Chiefs of Staff supported, review of all initial skills training to eliminate training duplication and create savings. During calendar year 1993, Services consolidated Calibration, Helicopter Maintenance, and Water Survival training. Services are now implementing the following consolidations/collocations approved in 1994: Welding - Army and Marine Corps at Aberdeen Proving Ground (APG), MD; Food Service - Army and Marine Corps at Fort Lee, VA; Civil/Construction Engineer - six sites/all services. Army sites are: Fort Leonard Wood, MO and APG, MD. In addition:

- Navy has moved Corrections Training from Fort McClellan, AL to Lackland AFB, TX.

- Army, Air Force, and Marine Corps are continuing plans to consolidate/collocate Motor Vehicle Operator Training at Fort Leonard Wood, MO in late FY 96.

- Army/Marine Corps are implementing cost effective changes to the consolidated Petroleum courses at Fort Lee, Va. On 30 May 1995, the ITRO Executive Board approved additional training consolidation/collocation as follows: Small Boat training (USA/USCG) at Fort Eustis, VA, and (USN/USCG) at Great Lakes, IL; Communications training (USA/USAF/USN/USMC) at Fort Gordon, GA, Lackland, AFB, and 29 Palms, CA; and Supply/Logistics training (USN/USMC) at Athens, GA. In January 1996, the Executive Board approved consolidation of USA/USMC Electro-Optical training at APG, MD, the Joint Course on Logistics at Fort Lee, VA, and selected Safety courses at several Service locations. Although MTSR officially ended in December 1995, Services continue to wrap-up studies on Mortuary Affairs, Instructor Training, Ground Control Intercept, and Space

Operations/Maintenance. A final report on MTSR is expected by April 1996. (POC - Mr. Shepherd, DSN 680-5645/e-mail shep-
here@emh12.monroe.army.mil)

WARFIGHTER NETWORK:

Warfighter Network (WARNET) XXI: Warnet XXI is the TRADOC initiative to reenergize and reorient Army Modernization Training (AMT). Warnet XXI encompasses the process of documentation and standardization of training requirements, training products, and training outputs associated with the acquisition of materiel/weapon systems and training aids, devices, simulators, and simulations. As the training Warnet XXI is the TRADOC initiative to reenergize and reorient Army modernization training portion of the Army's "Equipping the Force" axis of Joint Venture, Warnet XXI supports both Warfighter XXI and Warrior XXI axes. The five components of Warnet XXI (needs analysis, requirements documentation, training products, test and evaluation, and Army training digital library) correspond to the Warfighter XXI and Warrior XXI components as well. Warnet XXI goals are to: integrate training support needs into system/hardware requirements; develop and provide system training support packages (TSP), New Equipment Training (NET) and institutional/unit training needs; and ensure TSPs/supporting training products are digitized for maximum access and use within the Army modernization training infrastructure. (POC - Mr. Ronneberg, DSN 927-2546, e-mail RONNEBED@eustis-emh20.army.mil)

LEADER DEVELOPMENT



"Today's Army is growing into the future-precisely because we have invested the time, money, human ingenuity, and hard work in leader development over nearly two decades. As we grow we must retain the essence of our leader development process - its warfighting focus. The basics must come first: troop leading procedures; the command estimate process; and intelligence preparation of the battlefield, to name a few." These thoughts from GEN Sullivan will focus our efforts in the future. We will strive to maintain the finest leader development system in the world in all areas. Some key initiatives are:

Common Core: Common core, common military, and directed/mandated training are being incorporated into a single task list for each leader development course. This common core revision project consist of four phases; Phase I is the development of vertically aligned common core task lists, Phase II is the horizontal alignment of tasks across officer, warrant officer, and noncommissioned officer courses and the approval of common core task lists. Phases I and II were completed as of 13 Nov 95. Phase III is the revision/development of task summaries and training support packages/products (TSP) and training implementation, Phase IV is conversion of training support products to ROM or other automated media. Training support products will be developed and training implemented IAW following schedule: Precommission, OBC, WOCS, WOBC, PLDC, BNCOC, and ANCOC by 30 Sep 97; OAC, CAS3, CGSOC, WOAC, WOSC, WOSSC, BSNOC, and SMC by 31 Dec 97. (POC - Mr.

Ligon, DSN 680-5661/e-mail li-gonj@emh12.monroe.army.mil)

Captain's Professional Military Education (PME): TRADOC is leading a study of the timing and methodology for training Captains to ensure synchronization of training with assignments, i.e. *SELECT-TRAIN-UTILIZE*. Advanced Courses appear to be timed about right (normally after the first operational assignment). However, while CAS3 produces a superb product, there are two concerns. First, given the current OPTEMPO in our units, the 9 week TDY during operational assignments concerns many senior field commanders. Secondly, Captains are currently attending CAS3 during their second or third operational assignments; after they have held positions that needed CAS3 training. Goal is to brief a new concept to the CSA during 3rd QTR, FY 96 with implementation beginning late FY97.
(POC LTC Kichen 680-5618/e-mail kichenl@emh12.monroe.army.mil)

ORGANIZATIONS



We have observed through constructive and virtual simulation that significant increases in lethality, survivability, and tempo are possible in existing organizations using current doctrine when digital communications are integrated horizontally and vertically across combined arms teams.

The Division XXI redesign effort consists of several elements. The redesign effort consists

of the development of organizations and doctrine done by Force Design Directorate, TRADOC, and the Battle Lab Integration, Technology & Concepts Directorate for Combat Developments, TRADOC, respectively. Several Army Warfighting Experiments (AWEs) and simulations are being conducted to analyze and test new organizations, concepts and equipment. A brigade of the 4th Infantry Division will be organized and equipped as the test organization in FY 97 and undergo a rotation at the National Training Center. The results of this test will influence the decision on the final division design.

Top Down Force Design and Organization Modularity: Based on the Modularity Concept, TRADOC will continue development of modular, functionally-based forces that can better align the force with Force XXI development initiatives. The Top Down Force Design concept focuses on development of organizational designs that eliminate redundant "Cold War" Headquarters and streamline other C2 structures and organizations. Near term Top Down Force Design/Modularity efforts are designed, evaluated and approved through the semi-annual Force Design Update (FDU) process and executed in the Total Army Analysis (TAA) process. Far term Top Down Force Design/Modularity efforts will be integrated into Force XXI development initiatives.

Force Design Directorate has two primary functions. It is the executive agent for the Army in monitoring the Total Army Analysis process which determines the total force requirements for the Army. Also, as the proponent of the Force Design Update (FDU) process, it evaluates and presents for approval organizational issues raised from the field Army or the proponent schools through the Army's senior leadership. Final approval of the FDU process is by the Chief of Staff of the Army.

a. FDU 95-2: The following issues have been approved by the VCSA for competition in TAA-05, except for Aviation Modularity, which has been disapproved.

(1) Aviation Modularity (Split Based Operations). Proponent-Aviation School. The purpose is to implement modularity so aviation brigades can conduct

and sustain 2 separate simultaneous operations (Split Based Operations), and to identify all personnel and equipment needed to support employment of aviation elements in a battalion level task force (Aviation Modularity). Split based operations requires increasing critical single density personnel and equipment in Aviation Brigades, battalions, and support organizations. It also requires moving the Class III/V handling assets in Light and Airborne Division Aviation Brigades into the battalions. Aviation Modularity requires changing aviation organizations to provide TOE visibility of the elements needed to perform split based operations. This Aviation Branch Chief approved proposal documents MSTs designed to support the smallest deployable unit (SDU) which is usually a company-level organization. Documentation change will not generate significant personnel or equipment bills. (POC: LTC Engebretson, DSN 552-8677/email engebres@leav-emh1.army.mil)

(2) GS Electronic Maintenance Reorganization. Proponent - CASCOM. Purpose is to consolidate three separate TOE (43549LH, 43549LI, 43549LJ) into one GS Electronic Maintenance platoon. Current structure does not allow the flexibility needed to provide electronic repair support for contingency and follow on forces. The placement of automated test equipment (ATE) is only in one of the three platoons, although all platoons require this test equipment. The new structure supports modularity, improves repair capability and deployment planning, does not change doctrine and saves 329 spaces. (POC: CPT Trauger, DSN 552-8625/email traugert@leav-emh1.army.mil)

(3) Transportation Rail Reorganization. Proponent- CASCOM. Purpose is to design a modular rail structure capable of deploying only a minimal force in order to provide rail operation in theater. Converts existing battalion's four single function companies to multifunctional Rail Operating Companies each capable of providing total rail operations over 40-60 miles of track. The rail battalion is a one of a kind organization that falls in on and operates existing infrastructure in theater. All force structure is in the USAR. There is no increase in personnel or equipment, but the unit becomes more deployable and more capable.

(POC: CPT Trauger, DSN 552-8625/email traugert@leav-emh1.army.mil)

(4) Light Infantry Division Maintenance Reorganization. Proponent- CASCOM. Purpose is to provide the Light Infantry division with full MARC to make the LID self-sufficient for DS maintenance. LID maintenance TOE were severely constrained due to Army of Excellence strength and sortie limitations. The LID TOE (43217L AND 43218L) were reviewed and full MARC applied, resulting in a growth of 59 soldiers. Savings from Corps level maintenance plugs that had offset the AOE capability shortfall resulted in total savings of 578 spaces. LID reorganization has been approved by TOE Review Board pending FDU results. Proposal is consistent with all Force XXI divisional CSS redesign efforts, so will still be operative in a Force XXI Army. Implementation decision will be on hold pending Force XXI Division Design decision. (POC: CPT Sampson, DSN 552-8631/email sampsonk@leav-emh1.army.mil)

(5) Diving Reorganization. Proponent- Engineer School. This concept provides commanders with the required engineer diving forces at theater Army through brigade level. Converts existing teams into modular, more deployable Heavy and Light teams. Heavy teams orient toward port areas; light teams (much more mobile) operate in the Corps area. Diving forces will dominate and thoroughly exploit the underwater environment (battle space) from the theater/corps ports, harbors, and coastal zones to the most forward rivers in a brigade's area of operation. The concept provides updated doctrine and revised organizations to support offensive, defensive, retrograde, river crossing, riverine, joint riverine, deception, port terminal, logistics-over-the-shore, joint logistics-over-the-shore, transportation watercraft, area damage control, and post-conflict operations. Reference: ARATEP 5-500-24-MTP, Engineer Diving Teams (Hvy/Lt) (POC: LTC Lepley, DSN 552-8621/email lepleyd@leav-emh1.army.mil)

(6) MLRS Battalion Fire Direction Officer and Battalion Motor Officer. Proponent- Field Artillery School. Purpose is to improve the capability of the non-divisional MLRS Bn to coordinate joint, deep fires by adding a Bn Fire direction Officer (O3), due to the increased range and lethality of the MLRS

Family of Munitions(MFOM) and proliferation of long range sensors. Purpose is to improve the capability of the MLRS Bn to perform maintenance and sustainment operations, since the Bn S4 must focus more on management of MFOM. Standard FA battalions currently have these positions. Adds 2 slots per Bn. Bill is 24 AC, 16 RC. (POC MAJ Hardin, DSN 552-8666/email hardind@leav-ernh1.army.mil)

(7) Q-37 Target Acquisition Detachment for Corps Artillery. Proponent- Field Artillery School. Purpose is to provide Corps with organic Target Acquisition capability by adding a Q-37 TAD per Corps. Uses the TOE of an existing, effective organization to provide the capability. Each CTAD consists of 1 officer, 2 warrant officers and 36 enlisted soldiers. QTADs to support four light divisions are already on the ground. Provides Corps commander with a wide variety of METT-T driven employment options. Army owns sufficient equipment to support requirement. Organization could replace a non-standard TAB in Europe, saving spaces in Europe. Bill is 117 AC/ 39 RC. Strongly supported by DCSOPS. (POC MAJ Hardin, DSN 552-8666/email hardind@leav-ernh1.army.mil)

(8) Increased Division Advanced Quick Fix. Proponent- MI School. Purpose is to increase the number of AQFs at Division from 3 to 4. There is no procurement issue in fielding the AQF, as the plan is to redistribute existing assets. (POC: Miss Rose, DSN 552-8672/email ROSEB@leav-ernh1.army.mil)

(9) Division Command Post Security and Division Central Collection Point Operations. Proponent- Military Police School. Purpose is twofold: (1) Fill the void created by the elimination of the Band's secondary mission of augmenting Division MPs in the conduct of Division CP security and Division Central Collection Point (DCCP) operations, and (2) Correct AOE deficiencies in MP force structure. HQDA approved a new mission statement that eliminated the Band security augmentation mission, implemented to offset MP force structure reductions in AOE. Proposal standardizes all divisional GS MP platoons at 30 personnel (3x9 soldier squads, and a 3 soldier platoon HQ). This proposal restores MP force structure consistent with mission

requirements. TRADOC command position is to restore the divisional bands secondary security mission or failing that, to recommend this proposal. (POC: MAJ Uphoff, DSN 552-8638/email uphoffb@leav-ernh1.army.mil)

(10) Theater Tactical Signal battalion. Proponent- Signal Center. Purpose of this ISC-sponsored, Signal-supported proposal is to redesign two battalions (86th & 40) of the 11th Signal Brigade, Ft Huachuca. Design objective is to convert an EAC CONUS-based contingency Signal Battalion and a Command Operations Battalion into functional and modular-oriented signal units. The redesign converts non-standard units into standard TOE battalions, improves training and operation, fixes Desert Storm/Shield deficiencies, improves deployability, minimizes excessive task organization, and provides a bridge to future signal designs. Battalions will be better able to meet long term communication and information needs of Army Service Component Commanders, JTF Commanders, ARFOR Commanders, CINCs. Minor equipment requirement is manageable through redistribution of existing excess equipment, and there's no personnel bill. (POC Mr Wittenburg, DSN 552-8685/email wittenbd@leav-ernh1.army.mil)

(11) Civil Affairs/PSYOPs Planners at Corps and Division. Proponent- USASOC. Purpose is to provide minimum manning levels required for Corps and Division commanders to effectively plan for, integrate, and conduct CA and PSYOP throughout the full range of military operations. Results from lessons learned from previous operations and the new operational environments the Army faces in the future. Traditional augmentation from US Army Civil Affairs and Psychological operations Command (USACAPOC) is not adequate and does not reach units in a timely manner. Anticipated increase in personnel is 34 AC/ 24 RC based on 4 corps and 10 divisions. (POC MAJ Long, DSN 552-8659/email longk@leav-ernh1.army.mil)

b. FDU 95-3. Army Service Component Command (ASCC). The ASCC design objective is to develop an ASCC TOE that supports the three roles of the ASCC, performing Title X functions, provide an operational force to the CINC and provide a support force to the CINC. The ASCC must be

robust enough to designate elements of the headquarters to form an Army Forces (ARFOR) Headquarters and/or a Joint Force Land Component Command (JFLCC) Headquarters and/or a Joint Task Force (JTF) and still retain the capability to continue functions as an ASCC Headquarters. Anticipate approval of this issue in early April 1996. (POC MAJ Sepulvado, DSN 552-8668/email sepulvaj@leav-emh1.army.mil)

c. FDU 96-1. The following FDU 96-1 proposals were developed by their respective proponents and approved for field staffing by the TRADOC Deputy Commander on 5 March 1996. (POC MAJ DeMarco, DSN 552-8669/email demarcom@leav-emh1.army.mil)

(1) Conversion of MP TDA Structure to TOE Organizations. Proponent: Military Police School. The Law and Order (L&O) mission has been greatly expanded to support Army operations, creating an exceptionally high OPTEMPO and PERTEMPO, and a designation as a Low Density High Demand force. TDA MPs are commonly stripped from their units to overcome this L&O capability shortfall. MP capabilities to conduct L&O operations in peace, conflict, and war can be increased by converting the maximum number of TDA positions to modular TOE L&O Augmentation, Military Working Dog (MWD), and Customs Operations teams. This provides force planner flexibility to tailor force packages without degrading installation support to unacceptable levels. Requirement generation will be through recapitulation SRCs (L&O and Customs) and each functional MWD team. A total of 4254 conversion candidates are available for MACOMs to consider resourcing 3244 requirements.

(2) Internment/Resettlement Operations and Force Redesign. Proponent: Military Police School. The Internment/Resettlement (I/R) concept combines the MP Confinement and EPW/CI battalion designs by placing common functions and personnel into three modular TOEs - a Bn HHC, EPW modules and Confinement modules. This concept also expands the mission capability to include support to dislocated civilians (DC). Proposed designs provide maximum mission capability (DC, EPW/CI, US prisoners), increased force

packaging flexibility and improved deployability across all three environments (peace, conflict, war). The I/R Bn can support 4000 EPW/CI or 8000 DC with four EPW modules, or 1500 prisoners with three confinement modules. This concept advocates the establishment of a new MOS (95I) for I/R personnel, converting 95B and 95C personnel in EPW and Confinement units to 95I. The MP School will develop exportable and resident training packages and current 95B/95C will be "grandfathered" until retraining is accomplished.

(3) Multi-Role Bridging Company. Proponent: Engineer School. Current bridging operations do not support the Army's vision of Force XXI operations. CONUS-based force projection and aging bridge equipment required a re-evaluation of engineer bridging operations. This unit design departs from current bridge unit designs. The MRBC TOE includes two bridge platoons capable of employing four fixed bridge sets and six heavy raft sets. This dual capability allows engineers to emplace one bridge type immediately and still have the other type readily available. The redesign will not degrade bridging capability as active units are transferred to reserve components. The MRBC is designed to operate future bridge systems. There is a requirement for 16 MRBCs (2 per heavy division and light infantry division), a decrease from the current 23 bridge companies, and no additional equipment costs.

(4) Harbormaster Operations. Proponent: Transportation School. All water terminal operations require 24 hour harbormaster capability. The existing harbormaster capability is limited in size and cannot support port opening requirements of the force projection army without augmentation. This concept provides for modular, easily deployable, 19 person harbormaster operations detachments capable of 24 hour operations to control vessel operations and related functions from fixed port or bare beach, thereby eliminating the need for ad hoc organizations in theater.

(5) HEMTTs in LIDs. Proponent: Aviation School. The purpose is to modernize the Light Infantry Division Aviation Brigade with HEMTTs (tanker and cargo) rather than the current FMTV as currently planned.

This concept supports documentation requirements for three divisions (two AC, one ARNG) and includes a total of 90 HEMTTs (17 tankers and 10 cargo per division). HEMTT tankers provide more than double the fuel capacity per vehicle versus the current 5T truck w/TPU (2500 vs. 1200 gal) for a saving in fuel trucks. Significant savings in Class V cargo spaces would also occur. The greater capacities of a HEMTT improve maintenance workload, lessen supply requirements and improve strategic deployability. **Pulled from 96-1 cycle by DCG, TRADOC for documentation as BOIP.**

(6) AVIM Utility Aircraft.

Proponent: Aviation School. The AOE AVIM company design required two utility aircraft per company; however, the ARI removed these aircraft. Following implementation of ARI in 1995, the CDR, USAAVNC, has received requests to place these two aircraft back into AVIM companies. This concept fixes AVIM support deficiencies by documenting organic utility aircraft in 41 AVIM companies (based on TAA 03) for a total requirement of 82 aircraft (2 UH-60s per AVIM). The design increases maintenance responsiveness and adds flexibility and versatility to sustaining wartime priority readiness requirements. Recovery operations and movement of high priority maintenance assets use these aircraft. Resourcing has possible reserve component ramifications by preventing movement of UH-60s to the National Guard and a decrease in the number of required assault companies.

(7) CSM Tactical Wheeled

Vehicle. Proponent: Force Design Directorate. This concept provides the Command Sergeant Major (CSM) in a TOE command group position a tactical wheeled vehicle (HMMWV) having communications capability consistent with the commander. The CSM, therefore, can become more involved in each aspect of operations. This allows freer travel to subordinate units to check the health and morale of soldiers, to conduct his role as commander's liaison more efficiently, and move throughout the battlefield with speed and ease to fulfill the commander's intent. The issue for resolution in staffing is the source for a vehicle driver, whether the driver is dedicated or unit selected. Commands with co-located units are not provided CSM vehicles.

(8) EAD Avenger/MANPAD and MANPAD Battalions. Proponent: ADA School. The proposed designs change the structure of the present corps Avenger battalion and supports TAA 03 EAD FAAD battalion requirements. This concept establishes eight Avenger/MANPAD (36/24) battalions and four MANPAD (72 per) battalions in the ARNG, all resourced through the inactivation of ARNG Chaparral and Hawk battalions and AC Corps Avenger battalions. Due to reduced procurement, MANPADs will substitute until a new Avenger buy can be approved. Major expense is caused through inactivation of units and repositioning of equipment. Requires procurement of additional Avengers.

MATERIEL

Continued budget cutbacks and downsizing of our force have made it imperative that the Army analyze future warfighting capabilities of the force by evaluating, identifying, and prioritizing "Critical" battlefield systems that best support the Army's "Vision of the Future Battlefield." TRADOC, as the architect of the future Army, has the responsibility to provide an organized, trained, and well equipped modern force capable of maintaining the battlefield edge and to achieve Land Force Dominance as the Army transitions into the 21st century. A means of achieving this goal is the leveraging of technology and modernization of our future organizations, so necessary if we are to maintain the combat superiority we now enjoy. In the next few years, you will see a multitude of system upgrades and fieldings. Some of the materiel improvements are:

Improved FLIR (a.k.a. 2d Generation FLIR): Ensures we "own the night". Increases ability to acquire and engage targets to maximum effective range of weapons systems. Doubled combat identification range & reduces fratricide. Increases commander's situational awareness and decision time to synchronize fire and maneuver. Standardizes infrared imagery operational criteria and maximizes compatibility and commonality of performance and components. First of three major Horizontal Technology Integration (HTI) initiatives. Digital port facilitates transmission

of thermal imagery & battlefield digitization. FUEs are: BFVA3 = FY00; M1A2 = FY00; LRAS3 = FY01. (POC Mr. Schmidt, DSN 680 2415/SchmidtH@Monroe-emh10.army.mil)

M4 Carbine: A shortened variant of the M16A2 rifle which will replace all M3 .45 Caliber Submachineguns, and selected M16A2 rifles and M9 pistols. Eighty percent commonality of parts with M16A2. FUE FY95. (POC Mr. Schmidt, DSN 680 2415/SchmidtH@Monroe-emh10.army.mil)

Medium (7.62mm) Machine Gun Upgrade: After extensive operational and technical tests, the Army has selected the M240B, 7.62mm machine gun produced by Fabrique Nationale Herstal as a replacement for 1,434 M60 machine guns in Active Component rifle platoons. This is a ground mounted variant of the coaxial machine gun used in Bradley Fighting Vehicles and Abrams tanks. A similar version of the M240 is the standard USMC and 75th Ranger Regiment medium machine gun. FUE is scheduled for 1st Quarter FY 97. (POC Mr. Schmidt, DSN 680 2415/SchmidtH@Monroe-emh10.army.mil)

Thermal Weapon Sight (TWS) AN/PVS-13: A replacement for the AN/PVS-4, AN/TVS-5 and AN/PAS-7. This sight uses thermal technology which performs well in severe darkness, adverse weather and obscurants. There are medium and heavy variants which use a common main body with interchangeable front optics which change the field of view, power, and range. FUE FY96. (POC Mr. Schmidt, DSN 680 2415/SchmidtH@Monroe-emh10.army.mil)

M113A3 (Upgrades): These improvements will allow the M113 mobility, matching the rest of the maneuver forces. Upgrades to the M113 consist of external fuel tanks, A3. Reliability Improvement of Selected Equipment (RISE) Power (engine and cross drive transmission upgrades), enhanced armor protection, ramp and belly armor, and improved driver controls. FUE FY94; completion FY02. (POC: LTC Michael King, DSN 680-3949/ e-mail kingm@emh10.monroe.army.mil)

Bradley Modernization: The A2 ODS and the Bradley A3 will evolve from the A2. ODS (FUE FY96) addresses required fixes identified during Operation Desert Storm. Those fixes include a combat identification system, GPS/POSNAV, driver's vision enhancer and

missile countermeasure device. The Bradley A3 (FUE FY00) is the objective system. Planned A3 improvements are core electronic architecture, 2d generation FLIR acquisition, command and control software, commander's independent viewer and ballistic fire control. (POC: MAJ George Conrad, DSN 680-4083/ e-mail Conradg@emh10.monroe.army.mil)

M1A2: Deliveries of the M1A2 upgrade tank system for the U.S. Army began in the fall of 1994 and are scheduled to continue through the turn of the century with a production of 1079 tanks FUE is scheduled for 1CD 1QFY96. By year 2005, the technology used to develop and build the M1A2 will be nearly 20 years old. The armor community is developing a campaign plan for modernizing the tank force for the foreseeable future. POC: MAJ George Conrad, DSN 680-4083/ e-mail Conradg@emh10.monroe.army.mil)

Up-Armored HMMWV: Vehicle will be produced in a Scout, MP, and an Air Force variant. System possesses increased ballistic protection against small arms fire, artillery airburst, small antipersonnel mines and unexploded artillery submunitions for the crew compartment. FUE FY96. (POC MAJ Stevens, DSN: 680-3124/OPEN-MAIL - STEVENS@emh10.monroe.army.mil)

Long Range Advanced Scout Surveillance System (LRAS3): The LRAS3 system will provide the Maneuver Commander's timely, accurate 2nd GEN FLIR technology battlefield information from his Battalion Scout Platoons. The LRAS3 is a Scout 2nd GEN FLIR target acquisition system that will provide day, night, all weather target acquisition that will allow the Scouts to identify and acquire enemy targets outside the enemies engagement ranges. LRAS3 is a 2nd GEN FLIR technology with Laser Rangefinder (LRF), Daylight TV, Chemical Detection ability and has C3I Compatibility. FUE FY01. (POC MAJ Stevens, DSN: 680-3124/OPEN-MAIL - STEVENS@emh10.monroe.army.mil)

Improved Target Acquisition System (ITAS): ITAS is an upgrade to current Ground TOW and HMMWV TOW Target Acquisition and Fire Control Systems. ITAS improves Target Detection and Acquisition range, pathfinder for 2nd GEN FLIR technology and ITAS will allow for growth for the Follow-On to TOW (FOTT) Missile. ITAS is a 2nd GEN FLIR detector with monitor capability, eyesafe laser range finder

(LRF), direct view optics, embedded trainer, aided dual target tracking, automatic boresight, and increased range (Ph) capability. FUE: 4QFY97 (POC MAJ Stevens, DSN: 680-3124/OPEN-MAIL - STEVENS@emh10.monroe.army.mil)

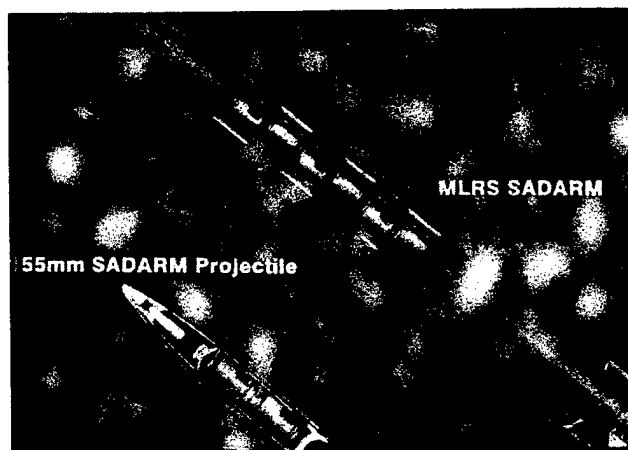
Advanced Missile System - Heavy (AMS-H)/Follow-On to TOW (FOTT): The AMS-H/FOTT missile will be employed in a similar manner to that of the current TOW missile. The AMS-H/FOTT will provide dedicated heavy anti-armor missile capability for light, air assault, Airborne, and heavy divisions. The AMS-H/FOTT will provide non-dedicated anti-armor missiles for Infantry and Cavalry Fighting Vehicles (IFV/CFV). The AMS-H/FOTT will be day, night, adverse weather capable, increased range and lethality over current TOW IIA/B, reduced time of flight (TOF), have full capability with ITAS/IBAS TOW platforms, and have a degraded performance with non-ITAS/IBAS TOW firing platforms. FUE: FY04 (POC MAJ Stevens, DSN: 680-3124/OPEN-MAIL - STEVENS@emh10.monroe.army.mil)

Improved Bradley Acquisition System (IBAS): IBAS is part of the Bradley A3 program and will upgrade current TOW II subsystems. IBAS is the pathfinder for FLIR Horizontal Technology Integration. IBAS will integrate FLIR Horizontal Technology effort and will allow for growth for Follow-On to TOW Missiles. IBAS is a 2nd GEN FLIR with monitor, day TV, eye safe laser range finder (LRF), automatic boresight, will increase PH of the 25MM and TOW out to the MAX Weapons Range. IBAS will leverage off the Improved Target Acquisition System (ITAS) program. FUE: 4QFY00 (POC MAJ Stevens, DSN: 680-3124/OPEN-MAIL - STEVENS@emh10.monroe.army.mil)

Multi-Purpose Individual Munitions/Short Range Assault Weapon (MPIM/SRAW): The Army has entered into a cooperative program with the USMC to develop a shoulder-fired multipurpose weapon to replace the AT4 and the M72 LAW. The Army's warhead developed in the tech base Multi-Purpose Individual Munitions (MPIM) program is connected to the flight module developed by the USMC for their SRAW. The Army's MPIM/SRAW will weigh about 20 lbs and be about 36 inches long in the launch container. It is a fire and forget, inertially guided, fire from enclosure system

with very high probability of hitting a bunker at ranges up to 300 meters. FUE is FY00. (POC: CPT Siegmund, DSN 680-2980/ e-mail Siegmunj@ emh10.monroe.army.mil)

XM898 Sense and Destroy Armor (SADARM) 155mm Projectile:



SADARM is a fire-and-forget smart munition designed to enhance the counterbattery capability of the fire support system and to ease the logistical burden of field artillery ammunition resupply. It is intended primarily for use against stationary self-propelled howitzers in firing position, but has the capability to attack and defeat other moving or stationary armored combat vehicles as well. SADARM is a system wherein target sensing submunitions are delivered over a target area by an artillery projectile and expelled. The submunitions descend by parachute and when a target is identified within the sensor scan area an explosively-formed penetrator is fired into the target. Each SADARM projectile contains two 5.8 inch diameter submunitions and is packaged, handled, maintained and fired the same as current 155mm HE projectiles. Range from the Paladin and Crusader howitzers is 22.5km and 30km respectively. The SADARM submunitions are fire-and-forget, sensor-fused top attack submunitions utilizing dual-mode millimeter wave/infrared sensors and explosively-formed penetrator lethal mechanisms. The search pattern of each individual submunition is a circular spiral of decreasing diameter. Overlapping and adjacent submunition footprints provide adequate coverage of the target area. FUE FY99. (POC: Mr. Hurst, DSN 680-2178/ e-mail HURSTJ@Emh10.monroe.army.mil)

Improved Mortar Ballistic Computer (IMBC): Replaces current 23 MBC. The IMBC will use state-of-the-art technology to provide digital

message capability and mortar firing data communications. Funding for FP1 only; FUE FY97. (POC: CPT Siegmund, DSN 680-2980/ e-mail Siegmunj@ emh10.monroe.army.mil)

Battalion Mortar System: Will replace 4.2 inch mortar. Max range 7200 meters/min range 200 meters. System procured in two configurations, towed version (M120) and carrier version (M121) mounted in M1064. FUE (M120) 4QFY93; FUE (M121) 3QFY95. (POC: CPT Siegmund, DSN 680-2980/ e-mail Siegmunj@ emh10.monroe.army.mil)

Javelin: A man-portable anti-tank system for the U.S. Army and U.S. Marine Corps. The system provides high lethality against conventional and reactive armor and will replace the Dragon. The Javelin is comprised of two major components: a reusable command and launch unit (CLU) and a missile sealed in a disposable launcher container. The CLU incorporates an integrated day/night sight and provides target engagement capability in adverse weather. The CLU may be used in stand-alone mode for battlefield surveillance and target detection. FUE FY96. (POC: CPT Siegmund, DSN 680-2980/ e-mail Siegmunj@ emh10.monroe.army.mil)

Wide Area Munitions (WAM): WAM is a ground emplaced munition which detects and then attacks vehicles from the top at ranges of up to 100 meters. The hand emplaced version (HEWAM) will be fielded in FY97. (POC: Mr. Morison, DSN 680-2285/ e-mail Morisona @ emh10.monroe.army.mil)

Modernized Demolition Initiators (MDI): MDI represents the military application of commercial shock tube technology to detonate explosives. MDI will be the primary system used to prime and detonate military explosives. It offers increased safety and simplicity compared with current systems. Conventional blasting caps and detonating cord will be retained for special applications not suited for MDI. Procurement has been initiated. Fielding will begin 4QFY96. (POC: Mr. Morison, DSN 680-2285/ email Morisona@ emh10.monroe.army.mil)

Air Volcano: UH-60 mounted mine launcher, can dispense 960 mines in less than 30 seconds. Systems were fielded to units at Forts Bragg and Campbell during Sep-Oct 95.. (POC: Mr. Morison, DSN 680-2285) email Morisona@ emh10.monroe.army.mil)

Deployable Universal Combat Earthmover (DEUCE): A combat support dozer that will be fielded to combat engineers in the Light

Infantry and Airborne units and will displace these units; M9 Armored Combat Earthmover (ACE), D5B, D7F, D7G dozers and associated prime movers with trailers. DEUCE will be fielded in August 1997. (POC: Mr. Morison, DSN 680-2285/ e-mail Morisona@ emh10.monroe.army.mil)

Selectable Lightweight Attack Munition (SLAM):

A lightweight, multipurpose munition which can be used as a magnetically fused mine, a tripline activated off-route mine, a timed demolition charge or as a command detonated device. When used as a mine, it has a self destruct function. Will be procured in limited quantities for light forces in FY96. (POC: Mr. Morison, DSN 680-2285/ e-mail Morisona@ emh10.monroe.army.mil)

Kiowa Warrior: Advanced Armed Reconnaissance Helicopter capable of flying in day or night: Weapon systems consist of Hellfire Missiles, 2.75" rockets and .50 Cal MG. Congress has approved the buy of 3820 Kiowa Warriors to be fielded in cavalry units and Light Division Attack Helicopter Battalions. Currently, 58 percent of the units are fielded, to include much of the XVIII Airborne Corps. Fielding should be complete by FY98) (POC: MAJ Neely, DSN 680-2300/ e-mail Neelyc@ emh10.monroe.army.mil)

Longbow Apache: The Longbow Apache consists of a Multi-Millimeter Wave Fire Control Radar, a Radio Frequency Interferometer and Longbow Hellfire missile. System provides a true fire-and-forget adverse weather capability. Results of this system show quantum improvement in combat effectiveness. FUE is FY97. (POC: MAJ Neely, DSN 680-2300/ e-mail Neelyc@ emh10.monroe.army.mil)

Advanced Field Artillery Tactical Data System (AFATDS):

A lightweight, distributed architecture computer network that provides command, control and fire direction functions for FA and coordination and planning functions for FS agencies. FUE FY96. (POC: MAJ Burke, DSN 680-2820/ e-mail Burkeg@ emh10.monroe.army.mil)

XM915/916 Dual Purpose Improved

Conventional Munitions (DPICM), 105mm

Cartridge: DPICM projectile has a submunition payload of 42 dual purpose XM80 submunitions with improved lethality and self-destruct fuse. XM915 is compatible w/M119A1 Howitzers and XM916 is compatible w/all 105mm Howitzers. FUE N/A. IOC

3QFY98. (POC: MAJ Burke, DSN 680-2820/ e-mail Burkeg@emh10.monroe.army.mil)

M109A6 Self-Propelled (SP) 155mm

Howitzer (Paladin): A product improved M109A2/A3. Incorporates all A4 and A5 improvements plus provides self-locating, self-laying, on board automated fire control, increased range, responsiveness, reliability, and crew survivability. Complete fielding FY00. (POC: MAJ Burke, DSN 680-2829/ e-mail Burkeg@emh10.monroe.army.mil)

M109A4 SP 155mm Howitzer: A product improved M109A2/A3. Intermediate step required before or simultaneously applied during conversion to M109A5. Materiel Change improves NBC and RAM conversions ongoing. (POC: MAJ Burke, DSN 680-2820/ e-mail Burkeg@emh10.monroe.army.mil)

M109A5 SP 155mm Howitzer: A product improved M109A2/A3/A4. Materiel Change adds a modified armament system--same tube as Paladin (M109A6) allowing M109A5 to fire M203 charge and obtain same range as Paladin--30km. Conversions ongoing. (POC: MAJ Burke, DSN 680-2780/ e-mail Burkeg@emh10.monroe.army.mil)

M119A1 Towed 105mm Howitzer: Air transportable and air dropable with increased range (19km) and responsiveness. Fires all 105mm ammunition plus new M913 HERA and XM 915 DPICM. Complete fielding 4QFY95. (POC: MAJ Burke, DSN 680-2820/ e-mail Burkeg@emh10.monroe.army.mil)

Firefinder (FF) AN/TPQ-36 Block II: The Block II Program consists of upgrades to HMMWVs and a Lightweight Multi-Purpose Shelters (LMS). Improvements will reduce emplacement/ displacement, drive on/off C-130 capabilities, self survey, reduced crew size (8 to 6) and remote operations. Self survey capabilities improves survivability through mobility. FUE 2QFY96. (POC: CPT Pace, DSN 680-2177/ e-mail pacep@emh10.monroe.army.mil)

Meteorological Measuring Set (MMS)

AN/TMQ-41: MMS is a mobile, fully automated non-radiating artillery meteorological (Met) system capable of hourly atmospheric soundings and Met computations of the atmosphere up to 30km. The system will be capable of multi-radio sound tracking. FUE 1QFY96. (POC: CPT Pace, DSN 680-2177/ e-mail pacep@emh10.monroe.army.mil)

Hydrogen Generator (HG) AN/TMQ-42: The HG will be a mobile system capable of producing 150 cubic feet of hydrogen gas per hour for filling meteorological balloons used by field artillery meteorological sections and store 300 cubic feet. FUE 3QFY96. (POC: CPT Pace, DSN 680-2177/ email pacep@emh10.monroe.army.mil)

Multiple Launch Rocket System Extended Range Rocket (ER-MLRS): ER-MLRS is a free-flight, single stage, solid propellant rocket capable of delivering a variety of conventional munitions to significantly greater ranges than the current M77 Dual Purpose Improved Conventional Munition (DPICM) rocket. ER-MLRS is designed to provide greater operational flexibility to the force by providing expanded cross boundary fires capability and enabling more continuous fires during rapid-paced offensive operations. During defensive operations it will improve a force's survivability through the ability to range enemy long range cannon and rocket artillery systems. The baseline ER-MLRS warhead will contain DPICM submunitions. Range of the rocket will be increased 50 percent over the current DPICM rocket to approximately 45km. The additional range is accomplished by decreasing the number of submunitions (518 vs. 644) and increasing the length of the rocket motor (about 10 inches). Integration of ER-MLRS will incorporate accuracy and submunition reliability enhancements as well. A zero-force detent mechanism will replace the current shear pins which retain the rockets in the launch tubes and a low-level wind measuring device on the launcher will both contribute to increased accuracy. Use of the XM85 DPICM submunition with a self-destruct fuse feature vice the current M77 submunition will reduce the submunition dud rate to one percent or less. FUE FY99. (POC: Mr. Hurst, DSN 680-2178 / e-mail HURSTJ@Emh10.monroe.army.mil)

Army Tactical Missile System (Army-TACMS) Block Ia: A modification of the currently fielded Army-TACMS Block I missile, Army-TACMS Block Ia will be a conventional, long range, surface-to-surface, semi-ballistic missile with an anti-personnel, anti-materiel (APAM) warhead. Block Ia missiles will be deployed within the ammunition loads of corps Multiple Launch Rocket System (MLRS) battalions, and fired from either interim M270 or M270A1 launchers. The single stage, solid

propellant Block Ia missile will be a certified round of ammunition, factory-loaded into a launch pod/container compatible with the MLRS. It will be 23.9 inches in diameter, 156.5 inches long and deliver approximately 275 M74 APAM grenades to a maximum range in excess of 300km. Each M74

blast/fragmentation APAM grenade weighs approximately 1.3 pounds, utilizes Comp B explosive and is designed to produce 1200 four grain tungsten alloy fragments. Pyrophoric pellets add an incendiary capability. Block I guidance is inertial, utilizing a ring laser gyro and is totally autonomous after launch. The block Ia missile will incorporate a global positioning system (GPS) receiver as well, to update missile position in flight and increase accuracy to maintain effectiveness at greater ranges. FUE FY98. (POC: Mr. Hurst, DSN 680-2178 / e-mail

HURSTJ@Emh10.monroe.army.mil)

Joint Tactical Ground Station (JTAGS): An air transportable, information processing system which receives and processes in theater, direct down-linked data from Defense Support Program Satellite-based sensors. Disseminates warning and alerting of ballistic missile launches, predicts impact point and time, and estimates launch point. Provides data to TMD Active Defense, Attack Operations and Passive Defense Operations. FUE FY97. (POC: Mr. Woolever, DSN 680-2932/ e-mail Wooleve2@ emh10.monroe.army.mil)

Patriot Advanced Capability - 3 (PAC-3): Patriot is a high/medium advanced surface-to-air guided missile air defense system. PAC-3 is a major upgrade to the Patriot system, consisting of integrated, complementary improvements that will be implemented by a series of phased, incrementally fielded materiel changes beginning in FY96. PAC-3 will increase battlespace and lethality by enhancing current detection and engagement capabilities. The PAC-3 missile (ERINT) is a key component of the overall improvements to the Patriot system. It will provide essential increases in battlespace, accuracy, and kill potential against TBMs. Total PAC-3 capability projected to be completed by end of FY98. (POC: Mr. Woolever, DSN 680-2932/ e-mail Woolver2@ emh10.monroe.army.mil)

Bradley Stinger Fighting Vehicle - Enhanced (BSFV-E): Enhanced BSFV is a series of modifications to upgrade the current BSFV to an automated air defense system. The enhancement means that the BSFV will no

longer be an armored taxi for manportable Stinger gunners (MANPADS) but an actual fire unit akin to the Avenger. The BSFV-E will have a four-missile Standard Vehicle Missile Launcher (SVML) to replace "TOW" launcher. Other modifications will include a Stinger reticle in the Integrated Sight Unit (ISU) and various other improvements that will permit launching of Stinger missiles against cued aerial targets without the need for the gunner to dismount. Eight BSFV-E weapon systems and two BSFV-E Platoon Leader Vehicles will participate in the Brigade 97 AWE. FUE FY97. (POC: Mr. Ebner, DSN 680-2948/ e-mail Ebnerj@ emh10.monroe.army.mil)

Guardrail Common Sensor (GRCS): A corps/EAC airborne reconnaissance, intelligence, surveillance and target acquisition (RISTA) signals intelligence system. GRCS is capable of detecting, identifying, and accurately locating high payoff C4I targets and weapons systems from the FLOT to at least 300 kms forward of the FLOT or national boundary. Location accuracy's are within target location error (TLE) specifications for the Army tactical missile system (Army TACMS) and multiple launch rocket system (MLRS). Time critical reporting is accomplished via the Commanders' Tactical Terminal (CTT) to Army and Marine Corps ground commanders and Navy and Air Force C2 nodes. (POC: Mr. Helderan, DSN 680-3273 e-mail Halderman@Emh10.Monroe.Army.Mil)

Commanders Tactical Terminal (CTT): Provides dedicated communications for the rapid dissemination of perishable intelligence to aviation, artillery, air defense, and maneuver C2 and execution nodes and intelligence centers. Through the CTT, in-time reporting is also accomplished to Marine Corps, Navy, and Air Force C2I nodes (ashore/afloat/airborne). Timely reporting is generated by Army, Navy, and Air Force airborne RISTA systems (e.g., Army Guardrail Common Sensor, Air Force U2R, and Navy EP3), and national centers and systems. Perishable reporting is accomplished via UHF relays located on the airborne platforms through the Tactical Reconnaissance Intelligence exchange System (TRIXS) interactive network, and via satellite relay through the Tactical Information Broadcast Service (TIBS) interactive network. (POC: Mr. Helderan, DSN 680-3273/ e-mail Halderman@Emh10.Monroe.Army.Mil)

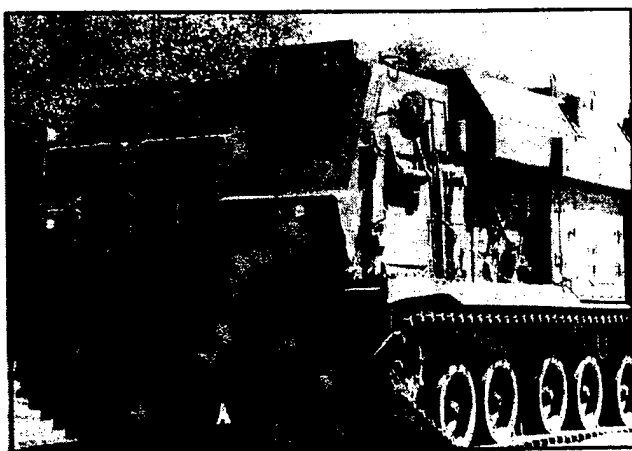
Commercial Space Package (CSP): The concept behind the CSP is to field a limited, but affordable, near-term space support capability in each of our fielded corps and divisions, today. CSP is one of several initiatives in TRADOC intended to transition the

Army into the 21st century. CSP consists of commercial satellites and ground terminals networked to provide JTF/Army commanders with robust communications, weather, and multi-spectral imaging capability. FUE FY95. (POC: Arthur Scharein, DSN 680-2843/ e-mail schareia@ emh10.monroe.army.mil)

Digitization: The application of information technologies to acquire, exchange, and employ digital information throughout the battlespace. Leverages digital technology and moves digital data between combat platforms by adding seamless connectivity from the foxhole to the NCA. Digitization operationally enhances the situational awareness and force synchronization on the battlefield, while enhancing target acquisition and revolutionizing direct and indirect fire roles. Army objective to digitize a brigade in FY97. (POC: Mr. Poynter, DSN 680-3874) e-mail Poynter@ Emh10.Monroe.Army.Mil)

Global Positioning System (GPS): Space-based POS/NAV system provides accurate three-dimensional position, velocity and time information. Fielding of precision location GPS receivers (PLGR) is ongoing. FOC 3QFY97. A PLGR II handheld system is on the horizon that will be smaller, lighter, and incorporate several jamming protection capabilities.. (POC: Mr. Gassaway, DSN 680- 5858, Email Gassaway@Emh10.Monroe.Army.Mil)

Command and Control Vehicle (C2V)



Objective of the program is to develop a vehicle that facilitates coordination and execution of the battle on-the-move. Mission Module permits mobile operations, functionally similar to stationary operations. Commanders and staffs remain mounted, supported by a robust intercom, data distribution, and communications system. Program successfully

passed through ASARC I/II decision December 1993. Currently, program is in Engineering and Manufacturing development phase. Low Rate Initial Production (LRIP) is scheduled for 4QFY96. (POC: CPT Richards, DSN 680-289) e-mail Richards@ emh10.monroe.army.mil)

Enhanced Position Location Reporting System (EPLRS): A low-to-medium speed data transmission device with a position navigation capability. EPLRS supports the Army Tactical Command and Control System concept by providing the data communications connectivity between battlefield functional area automated systems. EPLRS fielding started 2QFY95 to 1st CAV DIV and will be fielded to 1st CAV, 24th ID, and TFXI NLT 4QFY96. "An additional buy of 2107 EPLRS was approved by the Army Acquisition Executive to field the remainder of FP1 by FY99." (POC: Mr. Gassaway, DSN 680-5858, e-mail Gassaway@Emh10. Monroe. Army.Mil)

Joint Tactical Information Distribution System: A secure, jam resistant, near real-time, high speed data distribution system in support of air defense. Provides air picture data from air and ground sensors to ADA Forward Area Air Defense (FAAD) and High to Medium Air Defense (HIMAD) units. Consists of a user-owned JTIDS terminal and a JTIDS Terminal Controller (JTC). IOTE scheduled for 4QFY96 and a MSIII full rate production decision in 2QFY97. IOC is 2QFY98. (POC Mr. Gassaway, DSN 680-5858, Email Gassaway@emh10.monroe.army.mil)

Combat Identification: This horizontal technology initiative is a multi-phased program to field combat identification devices to complement improvements in DTLOMS for fratricide risk reduction. The Combat Identification program is being worked with other services and Allied/Coalition partners. Program combines situational awareness and improved target identification. Quick-fix devices, employing currently available technology (I2 and thermal), will be followed by the Battlefield Combat Identification System (BCIS). BCIS is a millimeter wave question-and-answer friendly identification device. BCIS is a part of the digitized battlefield and is currently being fielded to the Experimental Force (EXFOR) for participation in the Task Force XXI Advanced Warfighting Experiment (AWE). (POC: Mr. Hammond, DSN 680-5864/ e-mail Hammond@ emh10.monroe.army.mil)

Integrated Meteorological System (IMETS): IMETS is a mobile tactical automated weather data receiving, processing, and dissemination

system designed to provide timely weather and environmental effects forecasts, observations, and decision aid information to multiple command elements at echelons where USAF Weather Teams provide weather support to the Army. IMETS is an Army-furnished system (standard shelter/vehicle, common hardware/software, and communications) that is operated by USAF personnel and maintained within planned Army support for system components. Systems have been fielded as follows: two to Korea (EUSA and 2d ID); three to Fort Hood (III Corps, 1st Cavalry, and 2 AD); and two to Fort Bragg (XVIII Airborne Corps and 82nd Airborne Division). The lack of funds for Post-Deployment Software Support (PDSS) for IMETS caused FORSCOM, on 7 Dec 95, to decide that no further fieldings to FORSCOM units would be supported until the PDSS issue has been resolved. System fielding remains on hold. (POC: Mrs. Hanks/DSN 680-4077/e-mail hanksj@emh10.monroe.army.mil)

Digital Topographic Support System/Quick Response Multicolor Printer (DTSS/QRMP):

The DTSS/QRMP program combines two separate systems into one downsized system. DTSS/QRMP will be capable of receiving, (re)formatting, creating, storing, retrieving, updating, merging, and manipulating digital topographic data, as well as hardcopy reproduction of topographic products. The system will provide the theater commander and his staff automated and integrated terrain products to enhance and compress the decision-making process across the operational continuum. Fielding schedule for the DTSS/QRMP remains undetermined by HQDA (DCSOPS), with the Program Manager investigating getting prototypes to the field within the next 2 years if possible. (POC: Mrs. Hanks/DSN 680-4077/e-mail hanksj@emh10.monroe.army.mil)

All Source Analysis System (ASAS): A mobile, automated intelligence processing, fusion, and dissemination system designed to provide timely, accurate and relevant all source intelligence and targeting support to Battle Commanders (BN through EAC). ASAS Block I is now fielded to 12 high-priority corps/divisions. ASAS-Extended is proven ASAS software on commercial hardware. Currently fielded at I Corps, EUSA, PACOM, 10th ID and CENTCOM. ASAS Block II

software capability package one is expected to be delivered to 4ID in 4QFY96. (POC: CPT Patrick/DSN 680-4269/e-mail patrickj@emh10.monroe.army.mil)

TROJAN Special Purpose Integrated Remote Intelligence Terminal (SPIRIT) II: A HMMWV mounted intelligence dissemination satellite communications system which provides access to national and other level intelligence data bases. SPIRIT provides all-source dissemination capabilities including secure voice, data, and fax. SPIRIT will receive, display, and transmit digital imagery, weather and terrain products, templates, graphics, and text between CONUS/OCNUS bases and deployed forces. It supports force projection and split-based operations. TROJAN SPIRIT II will be fielded to Army units in FY96; the USMC has several systems fielded. (POC: Mr. Hurst/DSN 680-4347/e-mail hurstj1@emh10.monroe.army.mil)

Ground Based Common Sensor-Light/Heavy (GBCS-L/H): A next-generation divisional system which can intercept, locate, and process raw signal data in support of intelligence collection, targeting, and electronic attack. The GBCS provides target detection, identification, and location reports in near real time to brigade and division commanders. GBCS can also jam enemy tactical communication emitters. It is capable of passing targeting data to TACFIRE in support of a "quickfire" or sensor-to-shooter link. GBCS-L supports light divisions/brigades and GBCS-H supports heavy divisions/brigades. The range capability of the GBCS-L/H can be extended by the use of the aerial system known as Advanced QUICKFIX (AQF). AQF, in conjunction with GBCS, provides highly accurate location data via its precision location subsystem. All the components of these three systems are the same with the exception of the vehicles and antennas. FUE is scheduled for FY97. (POC: Mr. Floyd/DSN 680-3667/e-mail floydw@emh10.monroe.army.mil)

TROJAN Transportable Mini-Switch (TTMS): A preplanned product improvement of the TROJAN SPIRIT II system. It provides a materiel solution to eliminate a single source of failure at the Fort Belvoir switching center. TTMS will further eliminate dual satellite hops and provide TROJAN SPIRIT II connectivity for an intra- and inter-theater digital voice

switching capability. TTMS is employed at theater level and handles up to 12 TROJAN SPIRIT II. System 1 is scheduled to go to Hawaii and is currently undergoing testing. System 2 is scheduled to go to Fort Gordon but is currently located at the Fort Belvoir switch because of Operation Joint Endeavor. (POC: Mr. Hurst/DSN 680-4347/e-mail hurstj1@emh10.monroe.army.mil)

Joint Surveillance Target Attack Radar System (Joint STARS): A joint Army-Air Force program consisting of Air Force E-8C aircraft and Army ground station modules (GSM). The E-8C uses a multi-mode radar (moving target indicator (MTI) and synthetic aperture radar (SAR)) to collect data on moving and stationary ground vehicles, slow-moving rotary and fixed-wing aircraft, and rotating antennas. The GSM receives and analyzes processed radar imagery from the E-8C. The system supports situation development, target attack, and intelligence gathering with near real time interactive displays. The multi-service operational test and evaluation (MOT&E) was scheduled to begin in Nov 95. This test was postponed due to deployment of the system (2 aircraft and 13 ground stations) in support of Operation Joint Endeavor. OPTEC (USA) and AFOTEC (USAF) personnel deployed with Joint STARS to gather test data during this deployment. The first production Joint STARS aircraft was delivered Mar 96. Initial operational capability (IOC) is scheduled at Robins AFB, GA, in 2QFY97. (POC: MAJ McNeill/DSN 680-3443/e-mail mcneillw@emh10.monroe.army.mil)

"Hunter" Joint Tactical Unmanned Aerial Vehicle (JT-UAV): Hunter JT-UAV has been fielded to III Corps. Capabilities include: 250-km+ range, 8-hour+ mission time, and forward looking infrared radar/television (FLIR/TV) real time imagery. Future payloads may include communications relay, moving target indicator (MTI) radar, and minefield detection. Hunter is the first of a family of UAVs which include Endurance UAV at JTF/EAC level and Tactical UAV (previously Close Range/Maneuver) at maneuver brigade and LID. Hunter production has been halted at the end of delivery of the seven low-rate initial production (LRIP) systems. At this time, only the 15th AEB in III Corps will receive the Hunter UAV to support

Force XXI operations. TRADOC has recommended that a Hunter system also be provided XVIII Airborne Corps. One system will support training at Fort Huachuca with the remaining five Hunter systems being placed in "warm" storage in Sierra Vista, Arizona. (POC: Mr. Undercoffer/DSN 680-3274/e-mail undercoj@emh10.monroe.army.mil)

Enhanced Tactical Radar Correlator (ETRAC): A mobile ground processor (normally at corps) for receiving advanced synthetic aperture radar system (ASARS) data from U2R aircraft via a direct data downlink. ETRAC provides ASARS imagery to Modernized Imagery Exploitation System (MIES) for exploitation as well as situation and target development. ETRAC is C-130 deployable.

V and XVIII Corps each have an ETRAC. No further systems are scheduled for production. POC: Mr. Waller/DSN 680-3441/e-mail wallerj@emh10.monroe.army.mil)

Guardrail Common Sensor (GRCS): A corps/EAC airborne reconnaissance, intelligence, surveillance and target acquisition (RISTA) signals intelligence system. GRCS is capable of detecting, identifying, and accurately locating high payoff C4I targets and weapons systems out to at least 300 KMs forward of the FLOT or national boundary. Location accuracy is within target location error (TLE) specifications for the Army Tactical Missile System (Army TACMS) and Multiple Launch Rocket System (MLRS). Time critical reporting is accomplished via the Commanders' Tactical Terminal (CTT) to Army and Marine Corps ground commanders and Navy and Air Force C2 nodes. (POC: Mr. Helderman/DSN 680-3273/e-mail heldermc@emh10.monroe.army.mil)

Commanders Tactical Terminal (CTT): CTT provides communications for the rapid dissemination of perishable intelligence to aviation, artillery, air defense, and maneuver C2 and execution nodes and intelligence centers. Through the CTT, in-time reporting is also accomplished to Marine Corps, Navy, and Air Force C2I nodes (ashore/afloat/airborne). Timely reporting is generated by Army, Navy, and Air Force RISTA systems (e.g. Army Guardrail Common Sensor, Air Force U2R, and Navy EP3) and national centers and systems. Reporting is accomplished via UHF

relays located on the airborne platforms through the Tactical Reconnaissance Intelligence exchange System (TRIXS) interactive network and via satellite relay through the Tactical Information Broadcast Service (TIBS) interactive network. (POC: Mr. Helderman/DSN 680-3273/e-mail heldermc@emh10.monroe.army.mil)

Army Pre-Positioned Afloat: The Army War Reserve Three (AWR-3) includes sustainment supplies and equipment for a contingency corps, a humanitarian effort, a combat brigade, and a port opening capability. Supplies include all classes needed to sustain deployed contingency corps units up to C+30. Humanitarian support and port opening ships provide watercraft, trucks, forklifts, cranes, container handlers, food, and shelter items. Combat brigade ships have equipment and 15 days of sustainment supplies for 2 mechanized and 2 armor battalions. The Combat Brigade Afloat is on station and ready for deployment. (POC - Mr. Sova, DSN 680-3005, E-Mail address is SOVAJ@Emh10.Monroe.Army.Mil)

Family of Medium Tactical Vehicles (FMTV): FMTV is a family of medium trucks sharing common design and components with two payload classes: 2-1/2 tons and 5 tons. FMTV will provide ground transport for personnel, cargo and weapon systems, while reducing operations and support costs for the medium truck fleet. FUE took place in Jan 96 to selected units of the 82nd Airborne Division. (POC - Mr. Clapp, DSN 680-2609, e-mail CLAPPT@emh10.monroe.army.mil)

Improved Fox - NBC Reconnaissance System (NBCRS): The NBCRS, M93A1 is an armored reconnaissance vehicle equipped to detect, sample, identify, mark, and report the presence of NBC hazards. NBCRS will rapidly and accurately determine extent and nature of NBC contamination hazard over a specified area with expeditious transmission of information to supported units. Planned improvements will allow for digital communication to disseminate critical information to supported units via the Maneuver Control System (MCS). First Unit Equipped (FUE) is FY98 to Force Package 1 units. (POC - CPT Franks, DSN 680-4412, E-mail address is FRANKSC@emh10.monroe.army.mil)

UH-60Q MEDEVAC Helicopter: The UH-60Q will provide improved medical, navigational and communication capabilities over the currently employed MEDEVAC (UH-1/UH-60A) aircraft. PM anticipates type classification in Jun 98 and start of modification kit production as early as 4th Qtr 98 if funded in the 98-03 POM. Proposed funding strategy is for conversion of 87 UH60Qs from FY98 thru FY03 to optimize DUSTOFF support for "First to Fight" units. One company will be fielded per Division and ACR to minimum FP1 requirements. (POC - MAJ Coumoyer, DSN 680-3158, and E-Mail address COUNOYR-EMH10.MONROE.ARMY.MIL.)

Aircraft Nondestructive Test Equipment (NDTE): NDTE will provide Army Aviation Maintenance with state-of-the-art commercial equipment capable of inspecting aircraft components and structures for materiel defects/damage without aircraft disassembly. NDTE will greatly simplify inspection procedures, reduce time required to perform inspections and also be capable of inspecting composite materials found on modern Army aircraft. The NDTE program includes Eddy current, Ultrasonic, Harmonic Bond, and X-Ray test equipment. All divisional and non-divisional AVIM units (FP 1-4) will receive NDTE systems. Aviation Powertrain Repairman (MOS 68D) with an Additional Skill Identifier (ASI) of N2 are the designated operators of the NDTE equipment. Initially a 9 week resident training course conducted by the U.S. Air Force at their training facilities will train selected 68D personnel. The N2 ASI will be awarded to those 68D's who successfully complete the course. Fielding to Force Package I units will begin in Sep 96. (POC - Mr. Holm, DSN 680-2184, E-Mail address is HOLMS@Emh10.Monroe.Army.Mil)

Integrated Family of Test Equipment (IFTE) Base Shop Test Facility (BSTF): The IFTE BSTF is Automatic Test Equipment (ATE) used at the Direct Support and General Support levels of maintenance, to test and isolate faults in weapon system line replaceable units (LRU) and shop replaceable units (SRU). It is designed for state-of-the-art testing of digital, hybrid, and RF electronics, including spread spectrum technology. The station is either housed in a standard Army S-280 shelter, forming the BSTF, or floor mounted in a free standing version. The BSTF is transportable

by a 5 Ton truck. Initial FUE was FY92, with continuous fieldings through FY02. The BSTF is currently planned to support ASAS, AVENGER, DGM, DRAGON/TOW, GBS, HAWK, KIOWA WARRIOR, MLRS, NBC-FOX, PALADIN, TTC/TTY-39, AN/VRC-12, and BRADLEY TOW II. (POC - Mr. Marsico, DSN 680-3155, E-Mail address is MARSICOW@Emh10.Monroe.Army.Mil)

Biological Integrated Detector System (BIDS): The BIDS will quickly and reliably detect and identify the presence of biological warfare agents. The BIDS is a detector suite contained in a shelter mounted on a heavy HMMWV and includes a trailer mounted generator. BIDS will incorporate existing long-range secure voice communications and data transmission systems to rapidly report vital information to mitigate large-area BW effects. System improvements are planned for the FY99/FY03 timeframe which will make the BIDS more effective. The system is UH-60, CH-47D, and C-130 deployable. There will be one active BIDS platoon and one USAR company fielded with 7 systems by Jun 96. (POC - CPT Franks, DSN 80-4412, E-mail address is FRANKSC@EMH10.Monroe.Army.Mil)

Remote Sensing Chemical Agent Alarm (RSCAAL): The RSCAAL is a remote sensing chemical agent alarm that detects nerve and blister agent clouds at distances up to 5 KM. This system is passive infrared sensor with an onboard microprocessor. It uses line-of-sight and scans along a 60 degree arc from the detector. RSCAAL components consist of detector, retractable tripod, transit case, vehicle mount, and standard military power source. The basis of issue is one per NBC Reconnaissance Team and fielding will begin in late 95. (POC CPT Franks, DSN 680-4412, E-mail address: FRANKSC@EMH10.Monroe.Army.Mil)

Combat Service Support Control System (CSSCS): Provides the logistics commander and staff the ability to rapidly collect, analyze, and disseminate critical logistics, medical, financial and personnel information. CSSCS will provide timely situational awareness and force projection information to determine the capability to support current operations and sustain future operations. Fielding begins in Nov 97 to III Corps COSCOM and then to other

III Corps units. (POC - Mr. Van Alstine, DSN 680-3019, E-Mail address is VANALSTP@Emh10.Monroe.Army.Mil)

Corps and Theater ADP Service Center-Phase II (CTASC-II): Provides the commander with the capability of mobility and interoperability of split-based logistical operations to sustain an operation. Provides increased ADP capability to rapidly and efficiently satisfy wartime information requirements, provides greater survivability through mobility and standardization of hardware and software systems. Fielding to XVIII Corps COSCOM began in Nov 95 and fielding will continue throughout the Army. (POC - Mr. Van Alstine, DSN 680-3019, E-Mail address is VANALSTP@Emh10.Monroe.Army.Mil)

Combat Service Support Automated Information Systems Interface (CAISI): Fills a current shortfall by providing a capability for the STAMIS to be packet capable. CAISI is a user-owned and operated capability that allows CSS automation devices to exchange information via tactical and commercial communications networks to include automation systems within the sustaining base. CAISI connects existing incompatible devices to networks. Fielding to XVIII Corps COSCOM will begin in Mar 96 and fielding will continue throughout the Army. (POC - Mr. Van Alstine, DSN 680-3019, E-Mail address is VANALSTP@Emh10.Monroe.Army.Mil)

Automatic Chemical Agent Detector Alarm (ACADA): The ACADA is an automatic point detector (scheduled to replace the M8A1) that will detect both nerve and blister agents. The system will weigh less than 15 pounds and be 0.5 cubic feet or smaller in size. The new system will have the added blister capability improvement over the M8A1 as well as a decrease in the number of false alarms. The basis of issue for the ACADA is one for one replacement for the M8A1 and is currently funded for Force Package 1 and 2 units. Fielding is currently scheduled for 1QFY97. (POC CPT Franks, DSN 680-4412, E-Mail address: FRANKSC@EMH10.Monroe.Army.Mil)

AN/UDR-13 Pocket Radiac: The Pocket Radiac is a radiation dosimeter that measures

initial and residual gamma radiation and prompt neutron radiation. The system will automatically alert the operator when safe radiation dose is exceeded. The system improves on the IM-93 in that it measures both prompt and residual gamma and neutron radiation doses and also measures dose rate that previously required a different detector (IM-174/AN-VDR-2). The system will replace the IM-93 with a Basis of Issue of one per platoon. System is currently scheduled for fielding in Feb 98. (POC CPT Franks, DSN 680-4412, E-mail address: FRANKSC@EMH10.Monroe.Army.Mil)

XM56 and XM58 Smoke Generation

Systems: The XM56 and XM58 are large area, mobile smoke generator systems which produce visual or infrared smoke. Future improvements will include millimeter wave (MMW) obscurant capability. The smoke generator is modular in construction including a power module, visual module, IR module, and future MMW module. The power module uses a gas turbine to disseminate obscurants. The XM56 is HMMWV mounted and the XM58 is mounted in a M113 tracked vehicle. The system requires only two fuels, vehicle/ turbine fuel and fog oil. These systems will be fielded to Force Package 1 units beginning in May 97. (POC - Mr. Dixon, DSN 680-4413, EMAIL - DIXONW@MONROE-EMH10.ARMY.MIL)

SOLDIER



The Army's most valuable resource is the Soldier. Regardless of how superior our leadership, weapons, and technologies might be, it is the soldier who is the backbone of the Army. We are providing a comprehensive program to modernize the soldier as a battlefield system and to maximize warfighting capabilities by enhancing lethality, command and control

Enhanced Land Warrior (ELW). The total Army program for modernizing the soldier as a system. It includes all soldiers and provides for acquisition of all items worn, carried, or consumed by soldiers for individual use in a tactical environment. The ultimate result of ELW will be greatly enhanced combat capabilities as well as full integration of the soldier into the digitized battlefield. ELW will produce three major variants of an integrated fighting system: Land Warrior for dismounted soldiers, Air Warrior for air crewmen, and Mounted Warrior for armored vehicle crewmen. The dismounted system includes a modular weapon with thermal sight, improved ballistic protection, a soldier computer/radio, combat ID, and other capabilities. Initial fielding of the dismounted Land Warrior System is programmed to begin in FY00. (Mr. Roberts/DSN680-3512/e-mail Robertsd@emh-10.monroe.army.mil)

Soldier Enhancement Program (SEP). A quick reaction program initiated by Congress in 1990 to expedite modernization of infantry

soldier equipment. The program has since been expanded to include all soldiers and to address quality of life issues in the field. The focus is on nondevelopmental solutions which can be ready for procurement in 36 months or less. The program includes small arms, optics, munitions, clothing and individual equipment, and individual combat rations. (Mr. Roberts/DSN680-3512/e-mail Robertsd@emh-10.monroe.army.mil)

Force Provider (FP). One operational set (six modules) is supporting the peacekeeping effort in Europe. The system is operated by LOGCAP contractor. Two modules are scheduled to be completed in FY 96. A winterization kit testing for water distribution kit successful. Project completion of all 36 modules by FY02. (CPT Hamilton/DSN680-3039/e-mail Hamiltoa@emh-10.monroe.army.mil)

The Army Field Feeding System-Future (AFFS-F). The U.S. Army Combined Arms Support Command (CASCOM) and the U.S. Army Natick Research, Development, and Engineering Center continue refining the total AFFS-F equipment and concept. The concept involves upgrading current field feeding equipment, developing rations that are appealing to the soldiers, integrating a new class I automation system, and improving the force structure to meet the needs of the Force XXI Army. (CPT Hamilton/DSN680-3039/e-mail Hamiltoa@emh-10.monroe.army.mil)

Laundry Advanced System (LADS). CASCOM recommended the system change to become a water-based system. The contractor has made modifications to increase capabilities. (CPT Hamilton/DSN680-3039/e-mail Hamiltoa@emh-10.monroe.army.mil)

Field Latrines This program addresses improving identified field sanitation problems. The operational requirements document (ORD) for the Modular Initial Deployment Latrine is approved. The ORD for the Maturing Theater Latrine is awaiting approval. Currently, individual bags are in the supply system. (CPT Hamilton/DSN680-3039/e-mail Hamiltoa@emh-10.monroe.army.mil)

Family of Space Heaters. All requirement documents for this program are approved. Testing is being conducted and refinements

currently are taking place. (CPT Hamilton/DSN680-3039/e-mail Hamiltoa@emh-10.monroe.army.mil)

Tent and Shelters Program. The CASCOM is now the TRADOC Tent/System Manager. CASCOM is responsible for the coordination of tentage/shelter actions, reviewing proposed materiel requirements documents, providing guidance, and designating TRADOC school as proponent for new tentage when proponenty is undetermined. (CPT Hamilton/DSN680-3039/e-mail Hamiltoa@emh-10.monroe.army.mil)

Multi-technology Automated Reader Card (MARC). The JROC approved the Services' recommendations to include the MARC as part of Joint Asset Visibility and to support it in the FY 97-01 Program Objective Memorandum (POM). The Joint Personnel Asset Visibility (JPAV) system, a subset of Total Asset Visibility (TAV) will use the MARC as a means to capture data and transfer it to a variety of systems to provide total visibility of personnel. The card contains a digital photograph, printed and embossed information, bar code, magnetic stripe, and computer chip. Tested capabilities include readiness processing, manifesting, accountability, dining facility headcount, patient reception at medical clinics, field medical treatment documentation, and prisoner of war information/ tracking. (MAJ Johnston/DSN680-2539/e-mail Johnstoa@emh-10.monroe.army.mil)

Armored Security Vehicle (ASV). The ASV is a light, armored, combat support vehicle. It is needed to provide minimum essential protection to selected MP units in highly exposed threat environments. The primary vehicle requirement is ballistic protection (wraparound and overhead), and gas particulate ventilated face piece system. These requirements are in addition to achieving comparable mobility, communications, and firepower capabilities of the current MP weapons platform. A contract was awarded 12 Dec 95 to Textron Marine and Land Systems for four ASV prototypes for government testing. This is a Program Executive Office-Tactical Wheeled Vehicle-managed program for the Military Police. First unit equipped is expected in 2QFY98. (MAJ Johnston/DSN680-2539/e-mail Johnstoa@emh-10.monroe.army.mil)

Light Vehicle Obscuration System (LVOSS).

The LVOSS is a 66mm, self-defense smoke/obscurant device externally mounted on light vehicles such as High Mobility Multipurpose Wheeled Vehicle (HMMWVs). Light vehicles do not have an effective means of providing obscuration smoke for concealment and nonlethal self defense. The operational need for the LVOSS system has been documented in support of the infantry's HMMWV equipped TOW units and MP-variant HMMWVs. A Milestone I In-Process Review recommendation to enter Phase II of development was approved by the Milestone decision authority on 29 Feb 96. First Unit Equipped is expected in 4QFY00. (MAJ Johnston/DSN680-2539/e-mail Johnstoa@emh-10.monroe.army.mil)

Mission Need Statement (MNS) for Automated Military Police Functionality.

The TRADOC DCSCD recommended approval of this MNS to Department of the Army (Deputy Chief of Staff for Operations and Plans (DA ODCSOPS) on 14 Nov 95. The MP Corps (including U.S. Army Criminal Investigation Command) has a critical operational need for an automated functional application. Currently, MAP information is manually consolidated from oral and written reports into briefings, charts, forms, and reports, etc. State-of-the-art information automation technologies will modernize the MP information operation capabilities, fully integrate and operate on Force XXI battle command systems' common operating environment, contribute critical functional battlespace information in a timely manner, and comply with Congressional and DOD mandated standards for reporting criminal activities. (MAJ Johnston/DSN680-2539/e-mail Johnstoa@emh-10.monroe.army.mil)

Mission Need Statement (MNS) for the Security of High Value, Sensitive, Pilferable Items. DA ODCSOPS (DAMO-FDJ) approved this MNS on 9 Feb 96. This capability is required to improve security and protection of high value, sensitive, or pilferable items such as night vision devices, global positioning systems, small arms repair parts, etc. The initial objective of this system is to avoid mission degradation through by preventing loss of CIIC items. A secondary objective is to alleviate the necessity of commanders using soldiers to perform excessive guard duty to

protect high value and sensitive government property. (MAJ Johnston/DSN680-2539/e-mail Johnstoa@emh-10.monroe.army.mil)

UH-60Q Medical Evacuation (MEDEVAC)

Helicopter. The UH-60Q will provide improved medical, navigational, and communication capabilities over the currently employed MEDEVAC (UH-1/UH-60A) aircraft. The Office of the Surgeon General approved Army National Guard transfer of \$17M to Utility Helicopter Program Manager's Office (UH-PMO) for execution of UH-60Q Phase II (IOT&E) program on 27 Jun 95. PM anticipates type classification in Jan 98. (MAJ Courmoyer/DSN680-3158/e-mail Courmoyr@emh-10.monroe.army.mil)

MEDEVAC for Combat Casualty Care (MEC3).

DA ODCSOPS approved this mission need statement in Dec 95. The MNS is derived from the U.S. Army Medical Department Center and School's (AMEDDC&S) originally submitted requirement specifying the need for improved armored ambulance and treatment team vehicle. DADCSOPS staffing produced title change for applicability to all future MEDEVAC modernization initiatives. (MAJ Courmoyer/DSN680-3158/e-mail Courmoyr@emh-10.monroe.army.mil)

Medical Reengineering Initiative (MRI). The AMEDDC&S CD process for force structure review/revision to support CONUS-based, force projection Army. The principal product of this process, the Combat Health Support Operational Concept, recently was submitted for approval and inclusion into the TRADOC 525 series of pamphlets. This document is the AMEDDC&S's evolving vision of future medical operations and organizational designs. The major tenets of this vision are:

- a. Far-forward medical treatment including advanced trauma management and far-forward surgery.
- b. Standardized medical units using a modular-designed medical support system.
- c. Standardized air and ground MEDEVAC units, using air evacuation as the primary means of MEDEVAC on the battlefield.
- d. Maximum use of emerging technology to improve battle-field survivability and decrease mobility and resource requirements.

e. Flexible, responsive, and deployable hospital design and structure.

f. Enhanced ancillary and functional support systems using state-of-the-art technology.

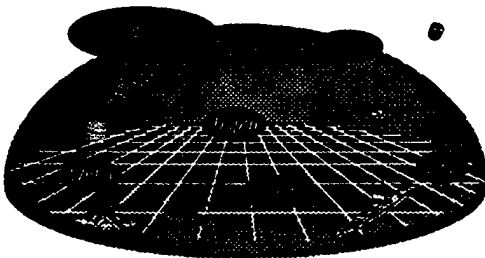
g. Medical command and control units with split-based operational capability.
(MAJ Courmoyer/680-3158/e-mail Courmoyr@emh-10.monroe.army.mil)

Combat Support Medical. Resources the modernization, sustainment, and tactical equipment maintenance of the Deployable Medical Systems (DEPMEDS) and the AMEDDC&S's table of organization and equipment force structure. This program contains numerous lines of basis of issue plans which are both replacements and new items.
(MAJ Courmoyer/DSN680-3158/e-mail Courmoyr@emh-10.monroe.army.mil)

Medical Nuclear, Biological, and Chemical (NBC) Defense Acquisition Program. Procures products for the centralized management of chemical medical defense products. It procures the initial and improved stocks of NBC pretreatment and treatment products and is executed by the Joint NBC Defense Board. This program contains numerous products which are both replacements and new items. (MAJ Courmoyer/DSN680-3158/e-mail Courmoyr@emh-10.monroe.army.mil)

BATTLE LABS

Characteristics of Decisive Operations



Multi-Dimensional. Force XXI will operate in an expanded battlespace. This battlespace goes beyond the traditional physical dimensions of width, depth and height;

to include portions of the electro-magnetic spectrum that extend beyond the physical boundaries of the division through its communications and digital connectivity to other Army, Joint and Coalition elements, reaching back even to CONUS from the Theater of Operations. Battlespace will also be defined by the human dimension, including not only soldiers and leaders, but also the civilian population in which operations are being conducted, citizens and families in the United States, and the peoples of the world. Finally, time is a dimension of battlespace that must be mastered. This concept seeks to seize and exploit the initiative to set tempo of the battle, not just acting faster than the enemy, but acting at that speed which is best for execution of the friendly plan.

Battlespace generally is framed by METT-T and largely shaped by corps or JTF. This shaping includes not only the application of fires and combat power, but also Deception, PSYOPS, Civil Affairs, Host nation Support, Sustainment, Intelligence, and reinforcement of existing terrain and infrastructure.

Precise. Decisive Operations are characterized by precision in operations. Precise operations are enabled by three emerging capabilities. First digitization, providing soldiers and leaders at each echelon the information required for making informed decisions. Second, a full suite of strategic, operational, and tactical sensors, linked to analytical teams that fuze combat information into situational awareness across the battlespace with greater clarity than ever before. Finally, simulations enable Army elements to be tailored based on emerging situation/crisis, plan operations based on METT-T, wargame and rehearse those operations yielding precision in execution. Precision in operations goes beyond precision strike, including every aspect of military operations from deployment through combat and redeployment or transition to other operations. In force projection this means the right force, effectively trained and rehearsed, to the right place on time. In combat operations, precision means precise maneuver, positioning elements correctly in time and space, complemented by precision systems and precision munitions. Precision in force protection includes employing dynamic obstacles exactly in time and space creating

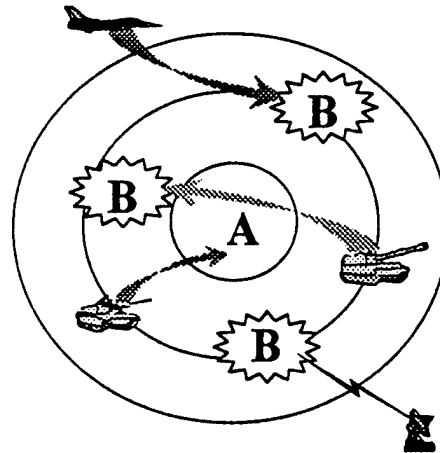
either protective or shaping effects, employing air/missile defenses effectively and countering each enemy capability based on intelligence at each echelon. Precision in sustainment is proactive arming, fueling, fixing, and manning empowered by common situational awareness of requirements and asset availability.

Non-Linear. Decisive operations are characterized by non-linearity, executing tasks across the entire battlespace rather than massing combat power at the Forward Line of Troops (FLOT). Non-linear operations do not seek a rigid organization of the battlespace into close, deep, and rear operations. Instead, the battlespace is fluid, changing as METT-T changes through the duration of mission preparation and execution. Peacetime engagement, humanitarian assistance, and peacekeeping missions are generally executed non-linearly, conforming to the physical characteristics or infrastructure of the area of operations or based on mission requirements. Non-linearity is enabled by greater situational awareness, allowing risk to be accepted with space between units rather than more traditional contiguous operations. Non-linearity also increases the burden on each divisional element, maneuver, CS and CSS for all-around security.

Distributed Operations. Employing our emerging capabilities, operations and functions are executed throughout the depth, width and height of our battlespace. These operations are distributed, that is executed where and when required to achieve decisive effects vice concentrated at a possibly decisive point. Key to distributed operations is the empowerment of soldiers and leaders to use their initiative, willpower, and professional expertise to carry out critical tasks at all echelons.

There are significant advantages to conducting distributed operations, both in war and other military operations. Distribution enables Army elements to take advantage of internetted communications avoiding the tendency to use the chain of command as the chain of information. Dispersion empowers subordinates to operate independently within the commander's intent, leading to synergistic effects that exceed synchronization by a centralized headquarters. Distributed operations lead to agility, with greater flexibility to react to multiple changes in the situation.

Centralized operations tend to be more sequential in nature. In contrast, distributed operations can execute numerous integrated tasks simultaneously across the battlespace.



There are certain functions that are best executed centrally, primarily management of resources. Force XXI Operations seek to execute each function using the best operational scheme. Through experimentation and operational experience, it appears the best approach is: Develop a central intent and concept; Conduct parallel planning and coordination enabled by digitization; and Execute distributed operations to achieve the objective.

Non-Linearity. Multi-dimensional and distributed approaches to operations enable non-linearity. Since the advent of Airland Battle in 1982, we have sought to break from a rigid win or lose at the front line mentality. This, coupled with smaller armies across the world guaranteed that future operations will be non-linear. Additionally, aviation and military operations at the lower end of the spectrum have never been bounded by artificially created graphical control measures. With Force XXI we continue the trend away from linear to a concept that seeks to develop forces that are comfortable and effective operating with open flanks and a 360° operations. These forces will be more agile and flexible, better adapted to combat in a wide variety of scenarios.

Simultaneity. The concept of operations that is multi-dimensional, precise, distributed, and non-linear yields the capability to conduct simultaneous operations across the battlespace. Simultaneous operations seize the

initiative and present the enemy leadership with multiple crisis, but no effective response. Digitization creates the ability to plan, coordinate, and execute actions simultaneously. Each of these actions creates an effect, the sum of which is greater than if they were discrete and sequential. Rather than a single concentrated attack, we execute a series of attacks (lethal and non-lethal) as near-simultaneously as possible. Simultaneous attacks are followed by a rapid transition to exploitation, leading to decisive victory with fewer casualties.

Integrated. Force XXI Operations are fully integrated with Joint, Multi-national, and Non-governmental partners. Recent experience has reminded us that Army operations have never been and will never be independent. From initial receipt of mission, through deployment, operations, and transition to follow-on operations Army elements function as an integral part of a Joint Task Force. That Joint Task Force is linked to Coalition partners and usually operates in conjunction with one or more non-governmental agencies such as the International Red Cross, United Nations, etc. Integrated operations enable the Army to leverage the full suite of capabilities the services bring to the battlespace. Army helicopters operating from carriers during Operation RESTORE DEMOCRACY and TMD warnings from SPACECOM are two examples of fully integrated operations.

Warrior Focus



During the fall of 1995 the Army conducted the Warrior Focus AWE: the primary purpose of which was to determine the implications of Digitization and Own the Night technologies for the Dismounted force. Warrior Focus AWE was conducted by the Dismounted Battlespace Battle Lab, employing a Brigade Combat team

from the 10th Mountain Division as well as Special Operations Forces. The experiment included constructive and live simulations and training at Fort Drum New York and culminated with Rotation 96-02 at the Joint Readiness Training Center. Key to the experiment was interoperability between dismounted and mounted forces. Inclusion of a digitized, mounted team from the EXFOR supported interoperability experimentation. Deliverables from Warrior Focus AWE are outlined below:

- Contributions of Digital and Own the Night Technologies to Information Requirements
- Confirm or Deny Adequacy of Information Architecture
- Digital Doctrine and TTP for the Dismounted Force.
- Tactical Impacts of Digital and Own the Night Capabilities

Using the opportunities available at both Ft Drum and the JRTC, the AWE examined operations across a range from low to mid intensity conflict. At the same time a variety of terrain and weather conditions were experienced from hot summer mountain and urban terrain operations at Ft Drum in August 1995 to cool, rainy pine forest operations at Ft Polk in November. These variations in conditions provide greater clarity and confidence in the conclusions of the experiment.

The digitization aspects of Warrior Focus complement the mounted Focused Dispatch AWE, ensuring that we build a coherent, interoperable digitized force. In Warrior Focus digital applications centered on Tactical Operations Centers at Brigade and Battalion levels, as well as digitization of maneuver, combat support, and combat service support elements down to company level. These capabilities, coupled with national to tactical level sensors, provided situational awareness across the dismounted force.

The Own the Night aspects of the AWE built on earlier experimentation conducted by the Dismounted Battle Lab and the 101st Air Assault Division. While providing technological enhancements to the soldiers, approaches included innovative

training techniques in night operations. Technology insertions were provided primarily to individual soldiers and leaders, including high power night observation sights and target designation capabilities.

While post-exercise analysis is going and the final report from the AVE will not be complete until the Spring of 1996, there are a number of significant observations from Warrior Focus:

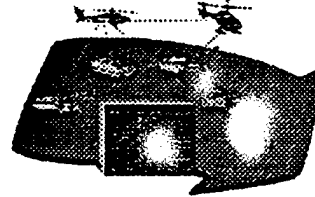
- Digital capabilities lead to more effective battlefield integration of mission planning, preparation and execution, particularly in planning where timeliness and accuracy was improved.
 - Greater Situational Awareness led to significant improvements in mission execution.
 - The combination of digital and Own the Night capabilities enhanced unit control and led to more effective target engagement at night.
 - Digitization enhanced lethality, particularly through timely deconfliction of fires and enemy locations.
- Own the Night technologies are a proven winner in both low and mid intensity conflict and should be invested in immediately, providing significant operational and force protection improvements across the force.

Prairie Warrior 95

The annual Prairie Warrior AWE (PW 95) held in May of 1995 provided the Army the opportunity to nest several experiments within the capstone learning experience for the students of the Command and General Staff College (CGSC). Prairie Warrior enables the Army to experiment with the Joint and Corps-level activities in support of the Army's Title 10 responsibilities. It is an experiment in the education of our future leaders in the concepts and application of Force XXI operations. Battle Command experimentation expands our understanding of the impact of digitization on the art and science of command. Taken together, these experiments make PW 95 one of the key and most powerful of our AWEs.

The central experiment within PW 95 is the Mobile Strike Force (MSF). The MSF uses a division-size force, equipped with 2010

technologies, to examine the DTLOMS implications of future warfighting. MSF is not just innovative technologies, but also innovative concepts that explore precision operations. Not just precision fires, but a fires and maneuver combination enabled by



digitization. Conducted entirely in simulation, and staffed by specially trained CGSOC majors, the MSF enables assessment of the following:

Force XXI Design Principles
Force XXI Operational Concepts
Battle Command Capabilities
CSS Concepts

CGSOC conducted a Battle Command Elective leading to PW 95 that served two purposes. First, it trained the student staff of the MSF in the operational concepts and the technical aspects of the hardware and software battle command technologies they would employ in fighting a futuristic force. Second, the elective itself was an experiment with innovative organizations and procedures in battle command. Rather than the traditional Main, Tactical and Rear Command Posts, the MSF organized with two small, mobile Plans and Operations Teams and a larger Knowledge Processing Team. The suite of Army and Joint simulations used in PW 95 enabled this experimentation on multiple levels. MSF organized with two small, mobile Plans and Operations Teams and a larger Knowledge Processing Team. PW used a confederation of Army and Joint simulation models to experiment on multiple levels within a JTF and Corps scenario.

PW 95 provided Force XXI insights at nearly every Army echelon, from theater to battalion. At echelons above corps (EAC) PW 95 examined concepts for the Joint Force Land Component Commander (JFLCC). The JFLCC organization and responsibilities were found to be "About Right." As a theater-wide experiment, PW 95 determined that the Theater Support Command was a useful concept and worthy of further experimentation.

the Army Service Support Command fit well into the theater organization.

MSF insights on warfighting are major input to emerging operational concepts. Key to the MSF concept was *simultaneous precision fires across the entire enemy forces, followed immediately by maneuver exploitation to rapidly defeat the enemy force*. Results of MSF analytics indicate significant destruction of enemy forces with only minimal friendly losses.



A key insight was that *all brigade-level organizations (Maneuver, DIVARTY, Aviation and DISCOM) became combined arms teams* in the fullest sense of the term executing combat, combat support (CS), and combat service support (CSS) operations simultaneously and continuously.

Battle Command analytics indicate further experimentation is required with the Digital Battle Staff. This experimentation will take place in PW 96 using the EXFOR. *The concept of a Paperless TOC, using only screen displays, was discarded as impractical in the near term.* Large screen displays, robust sensor suites, and continuous VTC capabilities were validated as critical investments. Significant leader development insights were gained from the MSF. More combined arms CS and CSS operations require multi-functional literacy in staffs, while digitization requires significant improvements in technical literacy among all officers.

Further experimentation is required for several initiatives. Automated planning and rehearsal tools were found invaluable, but need technological maturity. The battlefield distribution and related logistics concepts require more experimentation to prove the concepts. Prairie Warrior 96 will be a significant experiment in the evolution of these critical Army capabilities, progressing to the Division AWE in 1997 and eventually a fully capable Force XXI.

Theater Missile Defense

In the Spring of 1995 the Army, in conjunction with the other services, conducted a AWE to examine Theater Missile Defense. The AWE started with a Theater Missile Defense oriented study that concluded existing operational elements were stovepiped, and that primary areas of concern were C4I and passive defense. Potential solutions identified were automation, improved warning, and reduced sensor to shooter timelines. It was decided that deliverables from the AWE would include an Army TMD Concept, TMD Handbook, and an Integrated TMD Assessment. The study included a comprehensive world-wide threat assessment that revealed that the Detection and Identification process was critical and that "revenge shots," i.e., reactive engagement after the enemy has already fired are ineffective due to short dwell times of most TELs.



TMD consists of four operating elements: Attack Operations, Active defense, Passive defense, and C4I. The basic hypothesis of the TMD AWE was that if these four operating elements could be integrated across national, joint and Army capabilities then significant enhancements to force survivability would be achieved. This hypothesis was examined in an experiment that employed live, virtual and constructive using a variety of tactical scenarios. The TMD AWE was incorporated in a nested set of Joint and Army exercises, including:
ROVING SANDS - USACOM sponsored, FORSCOM directed, Integrated JCS Air Defense Live Exercise
JOINT PROJECT OPTIC COBRA - CINC Experiment Program focusing on Joint TMD Attack Operations
OPERATIONAL CONCEPT DEMONSTRATION - An air Force Experiment focusing on AF Attack Operations and C2I.

SPECIAL PROJECT NIGHT VECTOR - Navy Experiment Assessing Linkage of Joint and National Intelligence Programs
TMD AWE - Army experiment Integrating the Four pillars of TMD

The experiment was conducted in five phases: *Early Entry Operations, Defensive Operations, Transition, Decisive Operations, and Recovery*. In early entry sensor to shooter scenarios examined Army TMD's capabilities to execute the TMD fight, passing early warning to sister services, and executing TMD missions immediately upon arrival in theater. Defensive and Transition operations allowed experimentation with sensor to shooter linkages to include ground based sensors and joint/army C4I systems as well as significant exploration of synchronization nodes including the Deep Operations Coordination Cell (DOCC) and the Joint Tactical Ground Station (JTGS). Reactive scenarios incorporated Special operations Forces (SOF) and UAVs in target development for subsequent attack by Army Aviation or ATACMS. Throughout the nested exercises, significant efforts were made to integrate joint approaches to TMD including not only digital connectivity, but also tactics, techniques, procedures, organizations, and training. Some significant innovations from the TMD AWE include: *Cruise missile warning, passive defense warning techniques, deep operations coordination, and Force Projection TOCs*. Warnings included cellular pager "beepers" to provide timely warning only to threatened personnel. Deep operations coordination focused on joint and Army automated sensor to shooter linkages from radars and UAVs to ATACMs, AEGIS and Army/Air Force air attack elements. Force Projection TOCs provided a rapidly deployable capability to command and control the TMD immediately upon arrival in theater. Some significant observations from the TMD AWE are:

- * Force Protection of maneuver forces remains difficult against short-range ballistic missiles and UAVs.
- * Joint, Interoperable, Automated TMD C4I systems are critical.
- * Pre-emptive attack of enemy missile systems is key to force survivability.
- * Must continue to develop force warning, both for individuals and units.

- * Must develop Joint, Automated Target Nomination system.

TMD 95 AWE will be followed by experimentation in 1996 that continues to develop Joint and Army operational, organizational and materiel solutions to the challenges of Theater Missile Defense.

Focused Dispatch

The Advanced Warfighting Experiment Focused Dispatch was conducted in five phases from September 1994 through August 1995. The primary purpose of Focused Dispatch was to examine procedural, functional and organizational changes in fire support, intelligence, logistics and battle command as a result of digital connectivity, to determine if enhancements in lethality, survivability, and tempo will result. Focused Dispatch AWE was conducted by the Mounted Battlespace Battle Lab. Focused Dispatch consisted of three constructive simulations, one virtual simulation, and the culminating event was a linked live-virtual simulation conducted concurrently at the Western Kentucky Training Area (Greenville, Kentucky) and the Mounted Warfare Test Bed at Fort Knox, Kentucky from 14 Aug-1 Sep 95. Each experimental phase focused on specific digital issues to be examined, either to validate the doctrine/TTP or to refine techniques and procedures for digital units. The overall intent of the experiment being the interoperability to experiment with procedures in multiple environments (constructive, virtual and live). Deliverables from Focused Dispatch are outlined below:

- Doctrine and TTP for Digital Task Forces
- Training Support Packages for digitized organizations
- Insights/Recommendations for TF XXI organizational experimentation
- Refined digital information requirements
- Insights across DTLOMS

TF 2-33, the experimental force for Focused Dispatch, was organized as a Tank-heavy Bn/TF with slice elements. The Task Force was equipped with M1A2 Tanks and M2A2 Bradley Fighting Vehicles. The Task Force also had prototype Battle Command Vehicles and Command and Control Vehicles. Other technologies participating included the Enhanced Mortar Fire Control System, wide area munitions, ASAS and IFSAS.

Focused Dispatch used constructive, virtual and live simulations. JANUS I and Janus II were constructive simulations focusing on fire support, air defense and intelligence issues. JANUS III focused on information flow and battle staff functions. A SIMNET was also conducted as a virtual exercise to involve soldiers to look at training, tactics, techniques and procedures.

The culminating event of Focused Dispatch was a live/virtual exercise conducted in August 1995. One Co/Tm, TF HQ's, selected slice elements and a Brigade C2 cell deployed to the Western Kentucky Training Area in Greenville, Kentucky. The three remaining Co/Tm's of the Task Force played key leadership positions at the Mounted Warfare Test Bed at Fort Knox. Both were linked in near-real time using an ARSPACE tracking system, and SINCGARS radio model passing virtual information to the live environment simultaneously decoding live information for insertion into the virtual environment. The OPFOR was provided by 1-123 AR (Kentucky Army National Guard).

There are a number of significant observations from Focused Dispatch. Some of the significant observations include:

- Not over technological "hump" with digitization
- Increased "flow" in communications systems (especially intelligence) may change the nature of future tactical operations
 - A digital COA development and rehearsal tool w/ all BOS integrated, enhances execution
- Greater benefits in CSS if executors are provided communications/digitization equipment to support asset tracking and situational awareness
- Brigade must filter combat information for specific CCIR requested by Bn Cdrs
- Plan, coordinate digitally; but still execute by voice
- "Trust the Icon"... soldiers/leaders must have confidence in accuracy of electronically-displayed information

TRADOC Analysis Center (TRAC)



TRAC continues to focus on analysis of FXXI division design alternatives, analytic support to FY96/97 Advanced Warfighting Experiments (AWEs), COEAs, analytic support to Joint and Combined initiatives, and scenario development.

Phase I of the FXXI Division Design Analysis (DDA) is complete. Results informed the Army Chief of Staff selection of the Modernized Heavy Division for further analysis and experimentation. Further, an analytical framework has been constructed for analysis of CSS organizations, tactics, techniques, procedures, and technologies as they related to the new division design.

Final preparations for Prairie Warrior/Mobile Strike Force 96 AWE were completed. The TFXI AWE Analysis Plan is nearing completion. Initial planning for the FY97 Division AWE has begun.

TRAC completed three major studies:

- The Crusader, Field Artillery System, Operational Analysis
- The Maneuver Control System COEA
- The Reconstitution of CSS Units in Operations Other Than War

Work continues on two additional major studies:

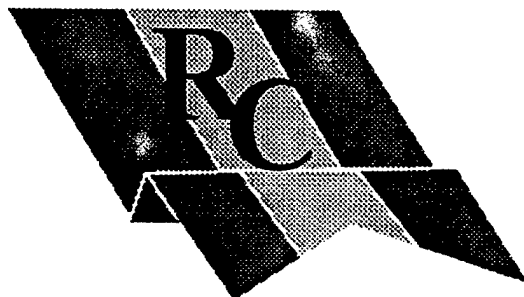
- The Anti-Armor Resource Requirements Study
- The Tri Service Attack Operations Study

TRAC will provide analytical leadership for the Joint Close Support Study. The Research, Development & Acquisition Alternatives Analyzer, a TRAC-developed resource allocation tool, was delivered to the SOCOM staff. Work has also begun on an analysis of OPLANS for Combined Forces Command, Korea. TRAC hosted the annual TRADOC Scenario Planning Conference in February. New planning techniques were discussed, and the course for future scenario development

was charted. The SOUTHCOM Theater Resolution Scenario and High Resolution Scenarios 56 and 57 were approved. Finally, TRAC began development of a Joint Virtual Experimentation Lab. The lab will provide a realistic, synthetic environment to develop new concepts and requirements for:

- C4I
- Battle Command
- Information Operations

TRADOC REINVENTION CENTER



TRADOC is pursuing reinvention efforts based on the authorities delegated by the SECARMY, 14 August 1995. These authorities are:

Coordination Authority. Permission to deal directly with Office of Secretary of Defense (OSD) and other approved reinvention centers or laboratories without having to go through the DA staff first.

Regulatory Waiver Authority. Permission to waive DoD, DA, and TRADOC regulations, directives, instructions, and /or publications, with certain limitations.

Legislative Change Proposal Authority. Permission to submit proposed legislative changes directly to the Office of the Chief of Legislative Liaison (OCLL) without having to filter through the DA staff.

Lab and Prototype Authority. Permission to designate TRADOC labs and prototypes, as needed, with no reporting requirements outside of TRADOC.

The TRADOC Commander established a Reinvention Center Coordination Office (RCCO) to serve as the command reinvention program management office. He also

established four reinvention laboratories aligned with the TRADOC Strategic Plan 1995 and major functions of the command: Training, Doctrine, Combat Developments, and Mission Support. The Deputy Chiefs of Staff of these respective functions are designated as Laboratory Directors and delegated full reinvention authority. They are tasked with using Reinvention Center designation and authorities to implement the institutional and cultural changes required to transform TRADOC into TRADOC XXI.

The RCCO has the lead in developing a marketing and incentive strategy to reach the lowest level at the installation. The RCCO distributed Operations Plan (OPLAN) RC-1 and is currently revising OPLAN RC-2. They implemented an electronic tracking system to capture and monitor all reinvention proposals. They conducted training sessions in the application of Malcolm Baldrige/Army Performance Improvement Criteria for adoption as the means for measuring and evaluating reinvention efforts. The RCCO is working with the Office of the Chief of Legislative Liaison (OCLL) to establish a "FAST TRACK" approach to seek relief from restrictive statutory provisions and legislative regulations quickly. If adopted, the approach will reduce the time to implement legislative changes on a test basis from approximately 24-36 months to 100 days.

Each of our four reinvention laboratories is executing actions within its functional area.

The Doctrine Lab is working to streamline Army doctrine. As a starting point, the Doctrine Lab is working to reduce 700+ field manuals and joint publications by 10 percent and to reduce the volume of the remaining publications by 10 percent. The lab will also place all unclassified doctrine on the Internet by the end of FY96.

The Combat Developments Lab is implementing a new requirements determination process in conjunction with the FAA requirements process. The Requirements Black Book has been published and describes the process our Army uses to determine and document requirements for operational forces of the future. The Black Book will be the

guideline to consolidate multiple TRADOC and Army regulations and pamphlets into a streamlined set of one Army regulation, AR 71-9, and six DA Pamphlets, the DA Pam 71 series.

The Training Lab completed an Operations Plan and initiated an incentive and marketing plan. The lab is processing five waivers of DA and DoD regulations and three legislative change proposals.

The Mission Support Lab completed a review of TRADOC BASOPS regulations resulting in rescission of approximately 61 percent. MSL is reviewing DA and DoD regulations with the intent to retain only those deemed essential; approximately 92 potential waivers are currently underway. Four DA regulatory provisions have been waived. MSL established the BASOPS Leveraging and Developments (BOLD) Grants initiative to provide venture capital for promising BASOPS investment opportunities. The program encourages installation garrison commanders to actively identify and pursue reinvention initiatives without adversely affecting scarce installation resources. The FY96 program provided investment funds of \$3.9M for 30 initiatives with an expected 5-year return on investment of \$62.9M. The MSL also formalized an agreement with FORSCOM to actively pursue joint efforts in reinvention of BASOPS.

TRADOC reinvention efforts will continue to expand, and we are confident our efforts will produce tremendous benefit for TRADOC as well as the rest of the Army.

U.S. Army Cadet Command



A Junior ROTC instructor's heroic response to an unprovoked assault captured the attention of the nation recently. Lieutenant Colonel (Retired) Frank Scotti was severely injured as the result of an altercation that occurred on the campus of Roosevelt High School in Washington, DC. The altercation resulted from Lieutenant Colonel (Retired) Scotti's efforts to evict several individuals, who were smoking an illegal substance, from a school corridor. The assailants, who later proved to be trespassers on the campus, have pleaded guilty to the January 30, 1996 assault.

Citing his responsibilities as a role model and teacher, Lieutenant Colonel (Retired) Scotti returned to his duties as soon as his medical condition permitted. His stoic attitude and deep sense of commitment to the Junior ROTC program were evident during numerous media interviews, including an appearance on ABC's *Good Morning America*. Plans are currently underway to honor him during the Cadet Command 10th Anniversary Review on April 19, 1996 at Fort Monroe.

The major purpose of the ceremony though, is to commemorate the 10th anniversary of the establishment of Cadet Command. It is one of a series of events commemorating this milestone in the history of the Army ROTC program. Featured speaker for the event will be General (Retired) William R. Richardson, former Commander of the Training and Doctrine Command (TRADOC). General William W. Hartzog, Commanding General of TRADOC, is also scheduled to attend the event. Other dignitaries in attendance will

include Major General (Retired) Robert E. Wagner and Major General (Retired) Wallace C. Arnold -- both of whom previously served as Commanding General of Cadet Command.

Maintenance of open lines of communication with academic officials is critical to the continued accomplishment of the Cadet Command mission. Towards that end, senior officials from Cadet Command and the Department of the Army recently traveled to Tuskegee University to attend the 20th Annual Historically Black Colleges and Universities Conference. Those in attendance reported that the conference afforded an excellent opportunity to exchange views on a variety of issues.

The sheer size of the Command makes it impractical to meet frequently with senior officials from each institution with an on-campus Army ROTC program. To ensure that a positive dialogue is maintained, Cadet Command prepares a detailed report annually to inform each academic institution about the relative state of their ROTC program. At the present time, reports for the current school year are being distributed.

Picturesque Lexington, Virginia is the setting for the 19th Annual George C. Marshall ROTC Award Seminar. The event, which commences on April 16th, recognizes the accomplishments of the top ROTC cadet from each academic institution hosting the Army ROTC program. John O. Marsh, Jr., former Secretary of the Army and Major General (Retired) Robert E. Wagner, the first Commanding General of Cadet Command co-chair this year's event.

Two other important conferences are also scheduled to occur during this quarter. The Collegiate Education Advisory Committee will convene on April 20, 1996. The Tri-Service Conference, involving the senior ROTC officials from all services, will meet at Maxwell Air Force Base, Alabama on May 15-17. Both conferences present the opportunity to develop positive strategies to meet the challenges facing the entire ROTC community.

COPIES OF THE UPDATE WERE MAILED TO EACH TRADOC INSTALLATION CHIEF OF STAFF AND COMMANDANTS OF TRADOC SCHOOLS ON NON-TRADOC INSTALLATIONS. LOCAL REPRODUCTION OF THIS UPDATE IS AUTHORIZED.

THE UPDATE IS ELECTRONICALLY AVAILABLE TO TRADOC INSTALLATIONS IN THE OV/VM "BULLETIN BOARD" UNDER "HQ TRADOC NEWS" AND "CG TRADOC BULLETIN". IN ADDITION THE UPDATE IS POSTED TO THE FOLLOWING INTERNET NEWSGROUP: tradoc.qtr-update ON THE MONROE-EMH4.ARMY.MIL NEWSGROUP SERVER.

TRADOC NOW HAS A HOME PAGE ON THE INTERNET. YOU MAY OBTAIN ADDITIONAL INFORMATION CONCERNING HQ TRADOC ORGANIZATIONS/ ACTIVITIES AND TRADOC INSTALLATIONS BY VISITING THE TRADOC HOME PAGE LOCATED AT WWW-TRADOC.ARMY.MIL